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NOTE.

[illegible] patentees in this list are those for the year 18[illegible], [illegible]tions and claims in the body of the work are those [illegible] 1837.

[illegible] of an invention of a machine or the like, the num- [illegible] patent of re-issue, the number 1,105; to that of

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Capstans, Ships'	Charles Perley	31,619
Capstan and Windlass, Combined	John S. Getchell	32,284
Capsules, Metallic	William Betts	33,179
Carpet Cleaner	A. M. George, and A. M. and J. W. Carter.	32,473
Carpet Fastener	M. D. and S. A. Snyder	32,089
Carpet Linings	John R. Harrington	32,134
Carpet Stretcher	G. S. Greenleaf and Cyrus Buckland	31,383
Carpet Tack Driver	H. S. Walcott	31,360
Carding Machine	Joseph Davis	31,425
Carding Machines	S. R. Parkhurst	32,380
Carriages	C. B. Wood	32,327
Carriages, Children's	B. P. Crandell and J. A. Conover.	31,872
Carriages, Children's	Charles Askam	32,271
Carriages, Children's, or Perambulators	J. A. Crandall	31,110
Carriages, Gun	W. C. Fuller	32,762
Carriages, Hounds of	John Maddock	33,355
Carriages, Making skeins of axle arms of	Gottlieb Schreyer	32,255
Carriages, Steam, for common roads	J. K. Fisher	32,991
Carriages, Steam, Changing the speed of	John Griffin	31,455
Carriages, Wheel	D. F. Goodhue and E. H. Carey	32,285
Carriages, &c., Holdback for	John Davis	33,555
Carriage Bodies	W. C. and J. Dunn	32,513
Carriage Bodies, Hanging	C. C. Stringfellow and D. W. Surles	31,134
Carriage Fronts, Removable	C. F. Abright and L. Burkhard	33,326
Carriage Pole Supporter	Solomon E. Bolles	33,811
Carriage Steps	H. T. Betts	32,460
Carriage Tops, Making braces for	B. F. Hooper	32,028
Carriage Work, Collar for ornamental	Moses Seward	31,330
Cars, Stopping and starting	James Higgins	31,080
Cars, Railroad, Draught bar for	H. J. Lombaert	31,670
Cars, Railroad, Equalizing beams and levers in	J. H. Dennis	33,776
Cars for Railroads, Metallic	B. J. La Mothe	33,350
Cars, Railroad, Retrackers for	Joseph D. Potts	33,795
Cars, Railroad, Stopping and starting	Bernard Morohan	31,124
Cars, Railroad, Stopping and starting	P. Louis	31,140
Cars, Railroad, Stopping and starting	J. A. Emerick	32,127
Cars, Street Railroad, Collecting fares on	J. H. Dennis	33,928
Cars and Railroads	Chandler McWayne	33,534
Car Trucks, Railroad, Applying the bolsters in	M. La Rue Harrison	33,739
Cart	N. R. Badwin	31,293
Carts, Hemp	T. Feagan	31,795
Carts or Wagons, Weighing	N. E. Doane	31,155
Cartridges	Rollin White	33,805
Cartridges, Envelopes for	A. K. Johnson and L. Dow	33,393
Cartridges, Metallic	J. P. Gillespie	33,481
Cartridges, Metallic, Manufacture of	Ethan Allen	31,695
Cartridges, Skin	Wm. Mont Storm	33,611
Cartridges, Waterproof	Roberts Bortholow	32,345
Cartridge Box	G. Jassath	33,306
Cartridge Boxes	James S. Smith	31,680
Cartridge Cases	B. C. English	33,429
Cartridge Loaders	Edward Maynard	31,898
Castor, Furniture	Edward Lindner	31,548
Castor, Furniture	C. R. Gorgas and W. H. Smith	32,766
Castor, Spring	E. J. Hall	33,974
Castings, Annealing and swaging	E. B. Wilson	33,315
Carts for pads, Taking	Fred. Kesmodel	32,773
Cattle, Watering, in railroad cars	William Robinson	33,605
Cattle Fastenings	Kendall Gibbs	33,780

Invention or Discovery.	Name of Patentee.	No.
Cement for leather and other substances	S. F. Hilton	33,065
Cements for roofing purposes	Peter Harder	33,194
Chairs, Endless, and tread of horse powers	G. E. Burt	33,024
Chains, Iron, Making	Edward Weissenborn	33,014
Chair, Adjustable	Amos Chase	32,511
Chair, Camp	P. J. Hardy	33,082
Chair for disseminating medicated vapors	J. W. Smith	32,384
Chair, Ice	Frederick Ashley	31,290
Chairs, Railroad	E. B. Banker	31,071
Chairs, Railroad	Enoch Wright	31,283
Chairs, Railroad	Ira Leonard	33,786
Chairs, Railroad	Arch. McGuffie	31,816
Chairs, Railroad, and Splicer	E. F. Barnes	32,114
Chairs, Railroad coupling	B. C. Smith	33,404
Chair, Reclining	George Hunzinger	33,392
Chair and bed, Camp	S. G. Crane	32,822
Chair, Lounge and Cot	G. B. Gurley and C. G. Brady	33,192
Chairs, &c., Spring bottom for	G. W. Griswold	32,622
Chair Backs, Cutting	J. A. Dyer	32,398
Chalk Erasers	George Munger	33,684
Cheese Vat	Darius W. Maples	32,198
Cheese Vat Operator	C. M. Wilkins	31,925
Chests, Bolting	Joseph Bell	31,947
Chests, Camp	George Parr	32,643
Chests, Camp	George C. Lane	33,529
Chests, Camp	Ambrose L. Carner	33,734
Chests, Camp	Charles W. Irwin	33,946
Chest, Camp, and Cook's Stove, Combined	H. W. Ball	33,630
Chest, Camp and Table combined	Wesley Chase	33,570
Chimney, Lamp	E. and E. D. Dithridge	33,428
Chimneys to lamps, Securing	Edwin Bowen	33,875
Chimneys, Linings for	Charles Shivers and S. Ustick	33,498
Chimney, Throat for fire places	John E. Layton	33,591
Chimney Top	Nicholas Hackett	31,015
Chronometer Escapement	Prosper Humbert	31,543
Chuck for boring fire-arms cylinders	Charles H. Alsop	32,675
Chucks for lathes	Samuel G. Twambly	33,056
Churn	J. V. Stevens	31,338
Churn	M. C. Longacre	31,355
Churn	V. Stirewatt	31,413
Churn	Peter Dunwald	31,447
Churn	J. R. Mickey	31,554
Churn	Wm. Hamilton	31,715
Churn	W. B. Hopkins	31,806
Churn	Wm. Jackson and Joseph Clarke	32,250
Churn	John Stillwell	32,388
Churn	C. T. Anderson	32,553
Churn	T. A. Jebb	32,697
Churn	H. Hagans	32,868
Churn	Nelson Cabel	33,080
Churn	Robert Parker	33,213
Churn	S. W. Mudge	33,262
Churn	S. W. Mudge	33,659
Churn	Royal H. Peck	33,815
Churns	Wm. F. Armstrong	32,814
Churns	C. D. Van Allen	32,907
Churns	John Fowler and W. L. Walter	32,939
Churns	M. C. Cronk	33,030
Churns	T. R. Markillie	33,154
Churns	D. W. Seeley	33,164
Churns	James H. Doughty	33,469
Churns	Henry Sidle	33,802
Churns	George Goeway	33,973
Churns, Operating	Isaiah M. Williams	33,422
Churn Dasher	Moses D. Wells	31,756

Invention or Discovery.	Name of Patentee.	No.
Cigars	Wm. C. Kneeland	33,889
Cigars, Making	George Barker	32,743
Cigars, Making	J. A. Heald	32,993
Cigars, Making	Fred. Wüterich	33,687
Cigars, Making the bodies of	G. A. Reiniger	33,603
Cigars, Putting on the wrappers of	G. A. Reiniger	33,604
Cigar Holders	Michael Johnston	31,808
Cigar Machine	W. W. Huse	31,390
Cigar Machines	Julius De Bary	32,405
Cigar Machines	Herrman Müller and Chas. Majer	31,518
Cisterns, Wells, &c., Apparatus for walling, with grout.	Fred. Wilford	31,503
Clamp, Shoemaker's	Peter Hanes	31,539
Clamping Machine for carpenters	William R. Axe	31,145
Clay, Pulverizing and Cleaning	Geo. F. Blake	33,810
Cloaks, Military	F. W. Weiss	33,910
Cloak and Tent, Convertible	Wm. B. Johns	33,528
Clocks, Calendar	Galusha Maranville	31,612
Clocks, Self-winding	Robert Hitchcock	33,250
Clocks, Tower	Moses G. Crane	33,462
Clocks, Winding	Robert Hitchcock	31,242
Clock Escapement	John C. Pitel	32,144
Clock Escapements	Wm. Hart	33,990
Clod Crusher	Charles Mahan, sr	33,624
Cloth, Elastic, Manufacture of	John W. Newall	33,361
Cloth, Machines for folding	J. D. Elliott	32,761
Cloths, Teatering and drying	J. S. Winsor	32,021
Clothes Dryer	J. H. Durand	31,013
Clothes Dryer	C. G. Sargeant	31,260
Clothes Dryer	Ezra Buss	31,868
Clothes Dryer	Duane Hall	31,980
Clothes Dryer	Chas. Robinson	32,147
Clothes Dryer	Joel Lee	33,353
Clothes Dryer, Revolving	K. B. Elliott and James Brown	33,697
Clothes Frame	L. F. Frazer	31,538
Clothes Frame	Luke L. Knight	32,104
Clothes Frame	M. J. Knox	32,569
Clothes Frame	Elliot Dickerman	33,075
Clothes Frame	Edwin R. Bigelow	33,232
Clothes Washer and wringer	Reuben G. Holmes	33,812
Clothes Washer. (See, also, *Washing Machines.*)		
Clothes Wringer	Ezeriah Spaulding	32,090
Clothes Wringer	G. B. Griffin	32,475
Clothes Wringer	W. B. Rhoades	32,650
Clothes Wringer	Jarvis H. Steadman	33,271
Clothes Wringer	Oliver D. Barrett	33,411
Clothes Wringer	R. R. Crosby and J. Harris	33,575
Clothes Wringer	Washington Whitney	33,861
Clothes Wringer	H. W. Putnam	33,960
Clothes Wringer to a tub, Attaching	D. Lyman	31,895
Clothes Wringer. (See, also, *Wringing Machines.*)		
Clover, Thrashing and cleaning	William Rowe	32,209
Clover Seed, Hulling and cleaning	F. E. Cook	32,470
Clover Stripper and Hay Rake, Combined	R. M. Blair and A. W. Beatty	33,512
Coal, Breaking	L. P. Garner	31,451
Coal, Breaking	R. A. Wilder	31,502
Coal, Machine for loading	Charles Busher	32,680
Coal and Ores, Desulpherizing	J. J. Storer	32,012
Coal Hole Covers	John Gault	32,865
Coal Screens	Jasper Snell and J. R. Deihm	33,268
Coal Scuttle	John G. Treadwell	32,158
Coal Sifter	David J. Starrett	32,211
Coal Sifter and Shovel	A. H. Knapp	31,575
Cocks, Gas	J. G. Leffingwell	31,465

Invention or Discovery.	Name of Patentee.	No.
Cocks, Gas	J. C. Wightman	32,804
Cocks, Steam	Alfred Swadkins	32,212
Cocks, Steam	Thomas Sanford	32,314
Cocks, Water and gas, Cases for	George McIlwain	33,592
Coffee, Rice and other grains, Scouring, cleaning and smutting.	L. D. Hawkins	33,064
Coffee Pots	David Stewart	32,011
Coffee Pots	H. W. Mosher	32,141
Coffee and Tea Pots	E. A. Kelsey	32,876
Coffee and Tea Pots, Strainer for	Wellington Case	32,969
Coffee and Tea Pots, Strainer for	Nathan Ames	33,316
Coffee Roaster	Soloman and Nicholas Van Dyk	33,113
Coffee Roasters	Henry E. Richards	33,453
Coffee Steeper	Rufus S. Sanborn	31,910
Coffee Strainer	Daniel Sherwood	32,791
Coffins, Metallic	J. H. Renshaw	31,401
Comb, Curry	Sarah J. Wheeler	31,199
Combs, Curry	H. L. Baldwin	32,505
Combs, Curry	Robert D. Porter	33,904
Combs, Curry, Rivetting	B. B. Hotchkiss	31,064
Condensers, Setting tubes for	William A. Lighthall	33,950
Condenser, Steam	William A. Lighthall	33,952
Condensers for steam engines	Fr. B. Stevens	33,856
Condensers for steam engines	Fr. B. Stevens	33,857
Condensers for steam engines	Wm. A. Lighthall	33,951
Condensers for steam engines, Surface	Joseph Cragg and Samuel Archbold.	33,441
Condensers, Surface, Tubes for	D. H. Chamberlain	33,763
Condenser and Water Heater for steam engines	J. S. Hooten	31,660
Condensers and Coolers, Tube sheets for	Wm. A. Lighthall	32,522
Condensing steam or Cooling water, Supplying water to steam vessels for.	Wm. A. Lighthall	31,609
Cooking Apparatus, Camp	Duncan McKenzie	33,357
Cooking Apparatus, Portable	John and Wm. Toothil	33,909
Coolers, Beer	G. B. Turrell	32,845
Coolers for beer and other liquids	F. Streubel & A. Roos	33,549
Coolers, Water, and Refrigerators	A. Godley	31,968
Coolers and Condensers, Tube Sheets for	Wm. A. Lighthall	32,522
Cooling frictional surfaces	A. Doig	32,823
Cooling and Freezing, Apparatus for	Alex. C. Twining	34,018
Copaiva, Capsules of	Cauhaupe	33,983
Copies of engravings, &c., Reducing	J. A. F. Lair	33,485
Core Carriages	Samuel Fulton	32,060
Corks, Cutting	H. F. Cox and Alex. Millar	33,122
Cork Cutting Machine	Alex. Millar	31,253
Cork Cutting Machine	Alex. Millar	31,990
Cork Extractor	E. A. Burgess	32,396
Cork Fastener for bottles	Daniel Miller	32,306
Cork Machines	Alex. Millar	32,075
Cork Machines	Isaac Goodspeed	32,497
Cork Pull	W. C. Wyckoff	32,394
Corn, Removing the husks from	Jos. Young	34,033
Corn, Shelling and grinding	George Seymons	32,898
Corn Furrows, marking	George G. Crose	33,478
Corn Huskers	George R. Walker	31,637
Corn Shellers	C. C. French	31,115
Corn Shellers	Matthew Trimble	31,839
Corn Shellers	L. S. Bundy and L. F. Edgerson	32,273
Corn Shellers	Augustus Adams	32,971
Corn Shellers	Samuel McQuiston	33,442
Corn Shellers	Ancil Stickney	33,627
Corn Shellers	Abram H. Jones	33,648
Corn Shellers	S. J. Parmele	34,008
Corn Shellers and Cleaners	M. F. Williamson and J. J. Swigert.	32,909

Invention or Discovery.	Name of Patentee.	No.
Corn Shellers, Threshing Cylinder and Grinding Mill.	C. Bailey	32,112
Cornstalks, Cutting standing	T. J. Freeman	31,928
Cotton and Cotton Stalks, Extracting	Josiah Bishop	31,437
Cot, Camp	Charles Mettam	32,884
Cot and Bedstead	William Wells	32,919
Cot, Lounge and Chair	G. B. Gurley & O. G. Brady	33,192
Cotton Bales, Tightening Ropes on	Charles Wilson	31,505
Cotton Cleaners	E. W. Tarpley	31,069
Cotton Cleaners	E. A. Hearne	31,456
Cotton Cleaners	A. S. Eastham	31,661
Cotton Gin	J. E. Ferguson	31,062
Cotton Gins	J. F. Brown	32,116
Cotton Gins, Flues for	J. B. Peyton	31,326
Cotton Pickers	John Griffin	31,165
Cotton Pickers	J. S. Schuyler	32,968
Cotton Scraper	J. D. Houston	31,122
Cotton Scrapers	Josiah Shephard	31,484
Cotton Seed, Detaching the short fibre from	L. P. Jenks	32,626
Cotton and Corn Stalks, Extracting	Josiah Bishop	31,437
Coupling Belt	Samuel Metzler	32,637
Coupling, Car	Francis B. Hall	32,223
Coupling, Car	Abraham Stroth	32,540
Coupling, Car	A. H. Trego	32,543
Coupling, Car	H. C. Hunt	33,841
Coupling, Car	G. W. Moffitt	33,958
Coupling, Car	B. F. Sweet	33,612
Coupling, Hose	Ambrose E. Barnard	31,103
Coupling, Hose	Henry Feyh	33,430
Coupling, Pipe	Robert Hale	33,193
Coupling for railroad cars	Arch. H. Rowand	31,036
Couplings, Railroad car	J. H. Osgood, jr., and F. B. Shaw	31,127
Couplings, Railroad car	R. M. Hughes	31,603
Couplings, Railroad rail	A. N. Gray	33,036
Couplings for connecting thills to axles of carriages.	Wm. H. Saunders	31,091
Coupling, Shaft	Benj. B. Hill	33,839
Coupling Links of railroad cars, adjusting	Tyler Andrews	31,289
Coverings for the head	M. D. Cohen	33,984
Cows, Milking	M. L. Baker	32,343
Cows, Milking	W. D. Nichols	32,379
Cradles, Grain	Daniel H. Viall	32,215
Cradle, Rocking	W. A. N. Long	33,045
Crane, Portable	L. A. Beardsley	32,608
Cranks, Avoiding the dead centres in	T. Williams	31,926
Cranks of steam engines, Over covering dead point in.	John Griffin	32,515
Cricket Wickets	William Hanlan	32,869
Cultivator	J. T. D. Alexander	31,101
Cultivator	W. A. Dryden	31,112
Cultivator	W. H. Smith	31,132
Cultivator	D. S. Stafford	31,133
Cultivator	E. W. Fuller	31,163
Cultivator	A. B. Lefler	31,178
Cultivator	Solomon Dwight	31,305
Cultivator	Charles Beech and Thomas Brown	31,367
Cultivator	S. M. Goff	31,382
Cultivator	R. A. Leeper and Z. B. Kidder	31,393
Cultivator	Whitman Price	31,400
Cultivator	J. W. Taylor	31,416
Cultivators	C. W. S. Heaton	31,665
Cultivators	J. B. Turner	31,682
Cultivators	Wm. Strieby	31,683
Cultivators	John Cox and John A. Thorp	31,702
Cultivators	Charles Gardner	31,710

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Cultivators	Charles Markell	31,725
Cultivators	W. F. Quimby	31,738
Cultivators	Wm. S. Riggs	31,742
Cultivators	Frederick Stamm	31,753
Cultivators	O. W. Goslee	31,884
Cultivators	Wm. F. Veber	31,917
Cultivators	James A. Spear, jr	32,010
Cultivators	Isaac Stout	32,097
Cultivators	Chauncey W. Emerson	32,128
Cultivators	Ira Cooper	32,276
Cultivators	G. W. Hildrith	32,366
Cultivators	Joseph Vowels	32,391
Cultivators	T. S. Cone and H. S. Potter	32,413
Cultivators	Josiah Mumford and J. W. Wilson	32,431
Cultivators	W. S. Weir, jr	32,442
Cultivators	M. Cain and W. Stelfox	32,468
Cultivators	R. F. Joynes	32,479
Cultivators	Joseph and St. Clair Gum	32,560
Cultivators	John Keezer	32,567
Cultivators	L. H. Doyle	32,760
Cultivators	Nathan Carr, jr., and John Carr	32,858
Cultivators	G. W. Lowbough and John Williams	33,044
Cultivators	Henry Bowers	33,129
Cultivators	W. H. Howorth	33,176
Cultivators	J. B. Moorhead and T. A. and G. G. Pool.	33,208
Cultivators	Riley Brotton	33,235
Cultivators	A. Hoffman and H. W. Limebeck	33,740
Cultivators	J. B. Turner	33,860
Cultivators	Jeremiah Fink	33,985
Cultivators	D. C. Gilliland	33,988
Cultivators, Cotton	George W. Rice	32,082
Cultivators, Rotary	Cicero Comstock	31,531
Cultivators, Seeding	J. Goodman and Samuel Rote	31,118
Cultivators, Seeding	C. T. Settle	31,564
Cultivators, Seeding	A. P. Durant	32,825
Curtain, Carriage fastenings	W. Z. W. and J. W. Chapman	33,515
Curtain fixture	E. M. Judd	31,246
Curtain fixture	J. Y. Marsh	31,550
Curtain fixture	Silas S. Putnam	31,623
Curtain fixture	Thomas G. Harold	31,643
Curtain fixture	George Gatty	32,062
Curtain fixture	Henry W. Chace	33,461
Curtain fixture	George R. Kelsey	33,708
Curtain roller	Langdon Sawyer	32,034
Cushions, &c., materials for	Bridge Frodsham	33,777
Cut-off	Fr. B. Stevens	33,858
Cut-off Apparatus for Steam Engines	A. S. Walbridge	33,274
Cut-off gear for Steam Engines	A. K. Rider	34,013
Cut-off for Oscillating Engines	William Craig	33,477
Cutters, Button hole	I. J. Feaing	32,281
Cutters, Feed	Mathew Fletcher	33,137
Cutters, Meat	Purches Miles	31,097
Cutters, Meat	Calvin Adams	32,852
Cutters, Meat	John Zeitter and Jos. Zinth	33,060
Cutter, Paper and Rule, Combined	T. E. Oliver	31,556
Cutters, Straw	William Newbury	31,029
Cutters, Straw	Ira Reynolds	31,328
Cutters, Straw	O. C. Taylor	31,417
Cutters, Straw	U. T. Stuart and E. E. Stewart	31,635
Cutters, Straw	G. U. and J. Relyea	31,740
Cutters, Straw	Otis B. Wattles	32,096
Cutters, Straw	J. R. Whittemore	33,119
Cutters, Straw	Horace R. Hawkins	33,147

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Cutters, Straw and hay	J. D. Cochran	32,962
Cutters, Tobacco	H. U. and H. A. Morse	32,640
Cutters, Vegetable	M. R. Hubbell	31,460
Cutters, Vegetable	John R. Whittemore	31,921
Cutters, Vegetable	Earl Guyer	32,247
Cutting bolts	M. D. Budd	33,982
Cutting machine, Sugar	William Moller	33,260
Cutting roots	W. C. Berry	31,005
Cutting roots, Machine for	Jacob Widner	33,922
Cutting standing cornstalks	T. J. Freeman	31,928
Cutting and grinding apparatus	Purches Miles	31,098
Cylinders, Copper, Casting	Freeborn Adams	32,169
Cylinders, Steam, Relieving them of the water of condensation.	G. W. Furman	31,116
D.		
Daguerreotypes, Mats for	John Dean	34,035
Daguerreotype Cases	Ralph Hill	32,562
Damper for multitubular steam boilers	J. R. Robinson	31,743
Dampers in steam-heating apparatus	J. J. Smith	33,107
Dampers for stove-pipes	Zebulon Hunt	32,834
Delineator, Grade	O. H. Bogardus	32,959
Derricks, Floating	George H. Brush	31,950
Desk, Night reading	John Rogowski	32,148
Diamonds, Glaziers, mounting	John Dickinson	33,188
Distillation, Method of	Van Buren Ryerson	32,254
Ditching Machine	O. Doolittle and N. Eldridge	31,376
Ditching Machine	C. E. Martin	31,551
Ditching Machine	J. A. Benedict and G. W. Cummings	31,653
Ditching Machines	George Ives	32,772
Ditching and Tile Laying Machine	B. P. Foster and W. H. Chaffee	33,506
Dogs, &c., Muzzles for	C. F. Schmidt	31,911
Doors, Coach, Stop for	Henry Killam	33,892
Doors, Railroad Car	Thomas Castor	32,681
Doors, Weather Strips and Fasteners for	D. K. Fischel	33,640
Door Fastener	William Patten	32,712
Double Trees	C. C. Bradley	33,820
Dough Mixing	William Hotine	31,082
Dough Mixing	Elisha Fitzgerald	33,432
Dove-tailing Machine	D. A. King and T. Norris	31,175
Dove-tailing Machine	Eleazer Coffin	31,301
Dove-tailing Machines	E. L. Jones and M. E. Carter	33,087
Drawing Frame, Stop Motion for	H. G. Williams	32,393
Drawing Instrument	John P. Jamison	32,566
Dredging Machine	Stephen H. Long	31,811
Drills, Grain	H. A. and L. B. Meyers	32,641
Drills, Rock	William Harson	31,430
Drills, Rock	A. Bigelow	32,957
Drills, Seed	J. H. Bean	31,105
Drills, Seed	Hiram Moore	31,819
Drills, Seed	George W. Nevill	32,078
Drills, Seed	J. S. Marsh	32,302
Drills, Seed	Jacob Strayer	32,319
Drills, Seed	John and Samuel Fahrney	32,598
Drills, Seed	John Sims	32,792
Drills, Seed	W. D. Harrah, B. S. Baldwin, and H. P. Jones.	33,145
Drilling Oil Wells, Machine for	R. H. Lecky	33,351
Drilling Rocks	Truman Crossett	32,963
Dusters, Bran	George Clark and P. T. Elting	31,371
E.		
Earth boring machine	J. G. Manley and F. Wedge	31,469
Eave Troughs, Wooden, and Piping	S. T. Field	31,449

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Edging Machine	Lucian Fay	33,190
Egg Beater	Walter Hart	31,663
Egg Beater	William T. Nicholson	32,886
Elastic shined goods, Making	Richard Solis	31,832
Electric Currents, Integrating inconstant	Charles Kirchof	31,545
Electric light	John Thomas May	33,457
Electric light	John Thomas May	33,458
Electric Machine, Frictional	Robert Cornelius	32,354
Electricity, Lighting Gas by	Robert Cornelius	32,471
Electricity, Obtaining light by frictional	Maurice Wesolowski	31,273
Electro Magnet	A. G. Holcomb	32,478
Electro Maguet	J. S. Jenness	32,874
Electro-magnetic Bathing Apparatus	James Young	32,332
Electrophorous	Robert Cornelius	32,353
Electro-plating with copper and other metals the silvered surface of mirrors, &c.	Justus Van Liebig	33,721
Elevating grain, Machines for	J. and H. Bruchshow and W. S. Underhill	33,634
Elevating Liquids by retained power	Rufus Porter	33,226
Elevators	Otis Tufts	32,441
Elevators, Brick	J. H. Sears and B. Merritt	31,728
Elevators, Water	J. M. Conpel	31,008
Elevators, Water	P. Anderson	31,365
Elevators, Water	C. H. Dunbrack	31,377
Elevators, Water	John M. Perkins	31,618
Elevators, Water	C. F. Anderson and S. Davis	31,769
Elevators, Water	R. W. Hunt and M. Kennedy	31,888
Elevators, Water	Ranson Bartle	31,942
Elevators, Water	Calvin Shepherd	32,151
Elevators, Water	H. H. Hudson and G. W. Billings	32,191
Elevators, Water	George Murray	32,337
Elevators, Water	C. Bixler	32,348
Elevators, Water	F. B. McGregor	32,574
Elevators, Water	Eli Mosher	32,580
Elevators, Water	A. W. Dewey	32,620
Elevators, Water	Joel Lee	32,632
Elevators, Water	George Race	32,648
Elevators, Water	M. A. Shepard	32,655
Elevators, Water	J. S. Rand	32,713
Elevators, Water	J. W. Graham and J. M. Topliff	32,767
Elevators, Water	A. H. French	32,862
Elevators, Water	Joseph Rider	33,007
Elevators, Water	Milo D. Wilder	33,166
Elevators, Water	D. B. Chatfield and J. M. Dutcher	33,505
Elevators, Water, for cattle	Nathan Miller	32,576
Elevators, Water, for cattle	M. D. Wilder	32,661
Embalming	Thomas Holmes	33,885
Engine, Air	J. J. E. Linair	31,722
Engines, Air	Richard Lord	33,308
Engines, Air or Gas	Peter Shearer	33,215
Engines, Caloric, Utilizing the Exhaust of	P. Shaw	33,497
Engines, Carding	Daniel S. Kimball	33,744
Engines, Carding	George Bradley	33,762
Engines, Carding	Joseph Davis	33,972
Engines, Hot-air	Steven Wilcox, jr	31,924
Engines, Hot-air	Philander Shaw	32,455
Engines, Hot-air	Philander Shaw	33,799
Engines, Hydraulic	Kellis Horde	33,039
Engines, Locomotive for ascending inclined planes	Sylvester Marsh	33,255
Engines, Oscillating	M. E. Bollinger	31,775
Engines, Oscillating Steam	Edmond Russell	32,787
Engines, Overcoming dead point in cranks of	John Griffin	32,515
Engines, Rotary	John B. Root	32,208
Engines, Rotary	C. Christensen	33,184

Invention or Discovery.	Name of Patentee.	No.
Engines, Rotary	William H. Devalin	33,379
Engines, Steam	W. S. Bean	31,138
Engines, Steam	T. Tisdale Carpenter	31,226
Engines, Steam	P. L. Weimer	31,272
Engines, Steam	Peter Murray	31,474
Engines, Steam	S. H. Whitmore	31,500
Engines, Steam	Seth H. Whitmore	31,920
Engines, Steam	John R. Armstrong	32,039
Engines, Steam	J. R. Robinson	32,205
Engines, Steam	E. W. Smith	32,538
Engines, Steam	Jacob Bradley	33,181
Engines, Steam	Andrew Buchanan	33,981
Engines, Steam, Feed water heating pipes of	B. Crawford	31,874
Engines, Steam, Packing for	J. H. Gould	31,512
Engines, Steam, Safety-plugs for	J. R. Robinson	32,206
Engines, Steam and hot-air	D. Musselman	32,200
Engravings, &c., Reducing copies of	J. A. F. Lair	33,485
Envelopes	Joseph Gray	31,801
Envelopes	Joseph Reckendorfer	32,813
Epaulets	W. H. Gray	33,702
Erasers	James M. Hicks	32,288
Erasers, Chalk	George Munger	33,684
Eraser and Eraser Sharpener	John Goult	33,304
Evaporating pan for Saccharine juices	J. V. Harter	33,942
Evaporator for Hot-air pipes	G. F. J. Colborn	31,152
Excavating Machine	W. F. Wickersham	32,660
Excavators	William Randall	31,905
Excavators	Arch. Kirby	32,194
Excavators	Jesse Bartoo	32,494
Excavators	Thomas Hutchinson	32,997
Excavators, Post hole	J. D. Owen	33,814
Excavators for water courses having currents	N. Van Deventer	33,460
Extracts under pressure, Making	A. A. Burlingame	31,951
Eyelet machines	Samuel J. Smith	32,088
F.		
Fabrics, Fibrous water-proof	John Wilson	34,021
Fan, Exhaust	Ranson Cook	33,693
Fan, Table	A. R. Traber	31,269
Fan Blower	Ranson Cook	33,694
Fan Blower	J. F. Leitch	34,028
Fan and Fly Brush, Automatic	Sophia Carpenter	32,970
Fares taken on public conveyances, Apparatus for ascertaining the	D. F. Haasz	31,513
Farinaceous Substances, Dessicating and tarrefying.	F. Huckins and E. C. R. Walker.	31,763
Fatty Substances, Bleaching	F. F. Mayer	33,005
Faucets	Ralph Graham	31,799
Faucets	John S. Davison	32,053
Faucets	John Neumann	32,201
Faucets	A. W. P. Ladd	32,699
Faucets	Erastus Stebbins	32,797
Faucets	Edwin Parks	32,888
Faucets, Measuring	A. Houpt and J. K. Griffith	32,996
Feathers, Apparatus for cleaning	William Mills	33,594
Feathers, Cleaning and renovating	John R. Morrison	33,489
Feathers, Dressing	Samuel Orr	31,993
Felloe machine	C. H. Denison	31,443
Felt cloth, Forming bats for	Thomas B. Butler	33,426
Felt cloth, Making	G. G. Bishop	32,611
Felting machines	G. N. Bronson	32,042
Fences, Farm, Portable	H. C. Foote	33,937
Fences, Field	Isaiah G. Inskeep	31,667
Fences, Field, Portable	G. B. Mallette	31,611

Invention or Discovery.	Name of Patentee.	No.
Fences, Field, Portable	O. H. P. Orendorff	33,792
Fence, Field, Portable	David Denham	33,927
Fences, Metal	Henry Noblit	33,211
Fences, Picket	George W. T. Grant	31,594
Fence, Pickets, Sharpening	H. F. Bond	32,960
Fences, Portable	Fred. Richer	33,163
Fertilizers	John O'Doris	34,039
Fertilizers, Sowing	John P. Killer	31,084
Fibrous Materials, Cleaning	C. G. Sargeant	33,852
Fibrous Material, Machine for reducing	Reuben Daniels	31,154
Filamentous matter from trees, Extracting	A. C. Vautier	33,551
Files, Paper	Thomas P. Yates	33,554
Files and Rasps	Thomas Sheehan	31,331
Filters	L. P. Jenks	31,352
Filters	George Norris	32,202
Filters	Benjamin Arnold	32,815
Filters, Portable	H. A. Hall	32,361
Filters, Water	Andrew T. Dunshee	33,340
Filtering Cup	Lewis Jennings	33,281
Filtering Stopper	George H. Mellen	33,443
Fire-Arms	Daniel Moore	31,473
Fire-Arms	Eugene Lafaucheux	31,809
Fire-Arms	C. A. McEvoy	31,815
Fire-Arms	William McCord	31,933
Fire-Arms	Lorenzo Sibert	32,316
Fire-Arms	Albert V. Hill	32,421
Fire-Arms	J. H. Merrill	32,450
Fire-Arms	J. H. Merrill	32,451
Fire-Arms	J. A. DeBrame	32,685
Fire-Arms	Benjamin F. Joslyn	33,435
Fire-Arms, Adjustable back sight for	C. Sharp	32,899
Fire-Arms, Automatic primer for	J. H. Wells	34,020
Fire-Arms, Breech-loading	C. O. Wood	31,050
Fire-Arms, Breech-loading	Frederick Townsend	31,268
Fire-Arms, Breech-loading	J. H. Merrill	32,032
Fire-Arms, Breech-loading	J. H. Merrill	32,033
Fire-Arms, Breech-loading	Herman Schroder	32,653
Fire-Arms, Breech-loading	Christian Sharps	32,790
Fire-Arms, Breech-loading	William Palmer	32,887
Fire-Arms, Breech-loading	C. D. Shubarth	32,895
Fire-Arms, Breech-loading	Anton Spellerberg	32,929
Fire-Arms, Breech-loading	Frederick Curtis	33,317
Fire-Arms, Breech-loading	James H. Merrill	33,536
Fire-Arms, Breech-loading	F. J. Vittum & E. M. Stevens	33,560
Fire-Arms, Breech-loading	Christian Sharps	33,607
Fire-Arms, Breech-loading	C. H. Ballard	33,631
Fire-Arms, Breech-loading	S. W. Marsh	33,655
Fire-Arms, Breech-loading	Thomas Lee	33,745
Fire-Arms, Breech-loading	Arnold Hamilton	33,769
Fire-Arms, Breech-loading	Daniel Moore	33,847
Fire-Arms, Breech-loading	Wilson H. Smith	33,907
Fire-Arms, Hammer Guard to	C. Sharps	33,546
Fire-Arms, Revolving	C. R. Alsop	32,333
Fire-Arms, Revolving	Ethan Allen	33,328
Fire-Arms, Revolving	William H. Elliot	33,382
Fire-Arms, Revolving	Ethan Allen	33,509
Fire-Arms, Revolving	Charles H. Alsop	33,770
Fire-Arms, Revolving	Henry Gross	33,836
Fire-Arms, Revolving	Anthony Smith	34,016
Fire-Arms, Revolving	Thomas Shaw	34,032
Fire-Arm Cylinders, Chuck for boring	Charles H. Alsop	32,675
Fire Escape	Levi Jewell	31,173
Fire Escape	J. W. Sprague, James Jones, and A. W. Tyrrell.	31,216
Fire Escape	J. A. Law	31,248

Invention or Discovery.	Name of Patentee.	No.
Fire Escape	William Miller	32,778
Fire Escape	John W. McKenzie	33,710
Fire Escape	Aaron Schute	33,757
Fireplaces	John McMurtry	31,212
Fireplaces	B. F. Cowan	31,785
Fireplaces	J. S. Ganson and C. F. Coit	32,283
Fireplaces	J. E. Layton	32,700
Fireplaces	James R. Hendrickson	33,349
Fireplaces, Backplate and chimney throat for	John E. Layton	33,591
Fireplaces, Portable	William B. Johns	33,995
Fireplace Heater	F. L. Hadenberg	32,364
Fireplace Heater	Samuel S. Bent	33,412
Fish, Manufacture of manure from	J. B. Hyde	33,706
Fish, Preserving	Enoch Piper	31,736
Flax dressing	G. F. Schaffer	33,625
Fliers	Joseph B. Clark	33,866
Flock, Machines for Sifting	J. F. Greene	31,514
Floor clamp	James L. Clough	32,120
Flour, Cooling and drying	S. N. Park and J. A. Staats	32,433
Flour Sifter	A. E. and J. B. Blood	33,293
Flower Pots	Otto Eberhardt	31,306
Flower Pots	Thomas Griffin	32,942
Flower Pots	Thomas J. Mayall	33,205
Fluid Compositions, burning	B. F. Hobard	31,457
Foot Scraper	Alexander Ralph	33,491
Forge, Blacksmith's, Portable	M. De La Montanya	33,479
Forks, Hay-elevating	Levi A. Beardsly	33,283
Forks and Spoons to knives, Means of Attaching.	Nathan Ames	33,730
Fracture Apparatus	John Whitten	31,501
Fracture Apparatus	Theod. Burr	32,229
Fracture Bedstead	Ezekiel Daniels	31,958
Freezers, Ice cream	E. P. Forrey	31,497
Freezers, Ice cream	H. B. Masser	32,138
Freezers, Ice cream	Oscar Paddock	33,859
Freezing, Apparatus for cooling and	Alex. C. Twining	34,018
Friction Clutches	R. Reynolds	34,012
Fringe, Making	L. D. Valletton	31,916
Fruits, Buildings for preserving	Benjamin M. Nyer	31,734
Fruit-drying Apparatus	Eli Duncan	32,597
Fruit Gatherer	L. M. Parker	31,475
Fruit Gatherers	M. L. Byrn	31,527
Fruit Gatherers	N. H. Bruce	32,973
Fruit Gatherers	Mark Lounsbury	33,843
Fruit in barrels, Pressing	E. S. Holmes	31,689
Fruits and plants, Method of growing	A. C. Chamberlain	33,774
Furnaces, Blast, &c., Heating air for	Henry Davies	33,521
Furnace, Combination of Cooking Stove and Air-heating.	P. J. Ackerman	31,144
Furnaces, Engine, Air-heating apparatus for	John H. Shotwell	33,801
Furnace for galvanizing iron	Wm. Blake	31,696
Furnaces for heating buildings	Joseph Leeds	31,892
Furnaces, Hot-air	A. H. Camp	32,974
Furnaces, Hot-air	John Adams	33,819
Furnaces, Hot-air	Solomon Mead	34,003
Furnaces for the Manufacture of Iron and Steel	J. W. Nystrom	33,446
Furnaces for Locomotives, Blowers to	F. B. Blanchard	32,614
Furnaces of Locomotive Engines, Increasing the draught of	John Sweeney	33,611
Furnaces, Refining and puddling	S. M. Fales	32,280
Furnaces, Refining and smelting	S. M. Fales	32,279
Furnaces, Reverberatory, Constructing the fire-chambers in, and operating the fires of.	Jacob Reese	31,327
Furnaces for smelting iron ore	Patrick Kerr	32,426
Furnaces, Steam-boiler	J. R. Robinson	31,627

Invention or Discovery.	Name of Patentee.	No.
Furnaces, Steam-boiler	J. R. Robinson	31,744
Furnaces, Steam-boiler	J. R. Robinson	32,313
Furnaces for Steam boilers	James Millholland	32,076
Furnaces of Steam boilers, Promoting combustion in	J. C. Tiffany and G. G. Heermance	31,938
Furnaces for treating iron ores	Isaac Roger	31,580
Fuse for explosive projectiles, Safety concussion	J. P. Schenkl	33,495
Fuses to Shells, Applying	R. P. Parrott	33,662
G.		
Gaiters, Ankle-supporting	T. G. Rich	31,259
Gaiters, Congress	H. S. Holmes	32,291
Gaiters, Elastic Stretching	Alva Worden	33,456
Games of chance, Selecting balls for	Mortimer Nelson	32,581
Gas, Electrical apparatus for lighting	S. B. H. Vance	31,359
Gas, Lighting by Electricity	Robert Cornelius	32,471
Gas, Naphthalizing	E. Dwight Kendall	31,720
Gas, Naphthalizing	W. H. Gwynne	32,222
Gas, Water Apparatus, Portable	Charles Harasythy	32,362
Gas, Water Manufacture of	W. H. Gwynne	33,249
Gas-generating Steam-boiler	John Laing	31,985
Gas, Holder Dry	N. Aubin	32,676
Gas Lights, Apparatus for lighting and extinguishing.	N. S. Manross	31,322
Gas Regulators	C. L. Herring	31,168
Gas Regulators	Thomas Powers	32,312
Gas Regulators	G. H. Smith	32,670
Gates	Hiram Barber	31,435
Gates	George C. Flaggs	31,965
Gates, Approach-opening	R. Brinkerhoff	32,407
Gates, Approach-opening	W. T. Cole	33,338
Gates, Automatic	Enos Waterbury	33,723
Gates, Automatic	H. W. Miskimen	33,896
Gates, Canal lock	Robert Taylor	31,836
Gates, Farm	H. Gray and W. A. Bury	31,800
Gates, Farm	H. R. Sloat	32,793
Gates, Flood	R. Keese, D. T. Ward, and J. G. Wilkinson.	33,201
Gate Post, Non-swagging	Isaiah Johnson	33,590
Gauge, Pressure	John Leavens	31,721
Gauge, Pressure	R. Finnegan and A. F. Schulte	32,414
Gauge, Pressure	Wm. Burnett	33,063
Gauge, Steam-pressure	Wm. Burnett	31,279
Gauge, Steam-pressure	H. T. Crocker	32,911
Gauge, Tucking	G. C. Munson	31,185
Gauges for clapboards	Stephen Inman	33,199
Gauges, Water, for steam boilers	Herman Shlarbaum	31,632
Gauges, Water, for steam boilers	W. B. Le Van	32,775
Gear, Running Railroad Cars	S. Howard	32,423
Gearing for driving machinery	McClintock Young, jr	32,733
Gearing for gas meters	John S. Elliott	31,791
Gearing for machinery, Friction	F. P. Dimpfel	31,659
Generators, Steam	F. E. Schmidt	31,329
Geographical outlines on moulded elastic globes, Relieving.	H. B. Goodyear	31,311
Geometrical lines, &c., Instrument for determining.	R. R. Light	31,987
Glass, Grooved rule and self-adjusting diamond for cutting.	John Dickinson	33,380
Glass Shades, Grinding	C. C. P. Waterman	33,175
Globes, moulded elastic, relieving Geographical outlines on.	H. B. Goodyear	31,311
Glue, Manufacture of	Charles W. Cooper	32,979

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Gold and Silver Ores, Treating	John Hastings and L. P. Gautier.	31,598
Gold from earths, &c., Separating	S. H. Mead	33,257
Gold Washer	Morris Bradley	33,376
Governor, Steam-engine	John H. Pomeroy	33,903
Governors for steam engines	Junius Judson	33,743
Governors for steam engines, Centrifugal	C. T. Porter	32,583
Grain, Machine for binding	Stephen Reynolds	31,402
Grain Binding Machine	W. W. Burson	31,526
Grain, Machine for hulling, cleaning, and grinding.	Charles F. Campbell	33,336
Grain, Measuring and Sacking	D. M. Cochran	33,186
Grain, Thresher and cleaner of	Wm. Pierpoint	33,049
Grain, Threshing and Separating	Cyrus Roberts	32,085
Grain, Threshing and Separating	Hiram Aldridge	32,502
Grain Threshing and Separating Machine	Jacob Seibold	32,896
Grain Cleaners	Lewis and Jacob Miller	33,956
Grain Dryer	Samuel Schuyler	31,191
Grain Measurer and Register	J. A. Cluxton	31,530
Grain Smut, Composition to prevent	A. N. Overton	33,489
Grain Separators	Ellis Michael	31,096
Grain Separators	A. Fanckboner	31,114
Grain Separators	Jefferson Marsh	31,428
Grain Separators	James Matthews	31,577
Grain Separators	E. Davis and Alonzo Palmer	31,591
Grain Separators	Byron Rice	31,675
Grain Separators	W. E. Gaunt and B. B. Hinman	31,711
Grain Separators	Andrew Hunter	31,981
Grain Separators	Linus Merrill	31,989
Grain Separators	G. B. Turner and J. A. Vaughan.	32,017
Grain Separators	George Lull	32,071
Grain Separators	S. M. Wirtz and F. Swift	32,099
Grain Separators	Charles B. Martin	32,429
Grain Separators	J. A. Scott	32,454
Grain Separators	H. H. Seeley and P. Griswold	32,723
Grain Separators	A. J. Vantuyl	32,729
Grain Separators	A. P. Merrill	32,883
Grain Separators	Henry H. Beach	33,231
Grain Separators	Jacob Meyer	33,537
Grain Separators	W. M. Watson	33,617
Grain Separators	A. H. Dixon	33,636
Grain Separators	J. Furgusson	33,639
Grain Separators	Aaron Higley	33,838
Grain Separators, Threshing Machines and Straw Carriers.	Wm. Pierpont	34,010
Grainer's Tools	R. A. Adams	31,363
Grates, Fire	Joseph Tiberi	31,914
Grates, Furnace	Marcus M. Rounds	31,676
Grates, Stove	John Mayer	33,919
Grates, Tubular, for steam boilers	S. C. Sturtevant	32,541
Grenades, Hand	Wm. F. Ketchum	33,089
Gridirons	Jacob Shaver and A. C. Corse	31,482
Grinding Apparatus, Cutting and	Purches Miles	31,098
Grooving Machines	J. H. Taylor	33,501
Guano Spreaders	I. J. Saunders	31,409
Guard, Cattle, for Railings	James Forrest	33,035
Guides for laying Cord	Wm. Taylor	31,494
Gun, Air	Geo. W. B. Gedney	33,344
Guns, Harpoon	T. W. Roys	31,190
Guns, Heavy Manœuvring	Joseph Stewart	33,803
Guns, Heavy Operating	P. F. Jones	33,891
Guns, Platoon, or battery, Portable	C. Stauf and C. J. Steinbach	34,017
Guns, Rifling	W. H. Gwynne	33,884
Gun Battery, Repeating	Ezra Ripley	33,544
Gun and Bayonet Battery	Joel W. Andrews	33,731
Gun-Capping Instrument	Edgar D. Seeley	33,626

Invention or Discovery.	Name of Patentee.	No.
Gunpowder, to serve as charges for Fire-Arms.	John H. Brown	33,069
Gun-stocks to pistols, Attaching	E. B. Savage	32,003
Gymnasium, Portable	W. and G. Hamlon	31,059
Gymnastic Apparatus	F. Veerkamp and F. Leopold	33,583
H.		
Hair-Cloth, Looms for weaving	Isaac Lindsley	32,634
Hair-Crimper	W F. George	31,234
Halter for Horses	J E. Marshall	32,837
Hames	Rusel Hazard	33,280
Hammers, Steam	R. R. Taylor	31,041
Hammers, Steam	Robert Morrison	33,595
Hammock	W. H. Forbush	33,678
Hand Grenades	Wm. F. Ketchum	33,089
Handles, Auger	L. L. Pollard	32,890
Handles, Broom	Wm. H. Towers	33,502
Handles, Kettle	Joseph Warner	31,198
Handles, Plough Turning	F. C. Coppage	32,910
Handle for hammers, etc	Thomas Phillips	31,997
Handle for hoes	Samuel Reynolds	32,146
Handle to hoes, Securing	W. L. Clement	32,275
Handles of mining picks, Fastening	D. Sheets and John B. Press	33,454
Handles to picks, etc., Attaching	W. H. Livingston	33,394
Harness for preventing the forelegs of horses from interfering.	D. G. Kettell	31,174
Harness for shoeing horses	J. P. Reynolds	31,213
Harrows	Samuel Miller	31,731
Harrows	Moses Bucklin	32,462
Harrows	T. C. Hooker	32,564
Harrows	J. T. Foster	32,599
Harrows	John Adams	33,327
Harrow, Rotary	William H. Hain	31,813
Harrows, Rotary	L. S. Tyler	31,341
Harrows, Rotary	Alonzo W. Olds	33,212
Harrows, Rotary	Alonzo Olds	34,007
Harrows, Seeding	Edward Badlam	32,554
Harrows and Sowers, Combined	James Brewer	33,377
Harrow Frames	J. Brainerd and E. F. Olds	31,865
Harvesters	George Esterly	31,158
Harvesters	George Esterly	31,159
Harvesters	D. S. Morgan	31,183
Harvesters	C. G. Dickinson	31,229
Harvesters	J. R. Tinker	31,339
Harvesters	J. B. Smith	31,486
Harvesters	P. H. Standish	31,490
Harvesters	John Blue	31,774
Harvesters	Adam Pritz	32,080
Harvesters	James Pine	32,266
Harvesters	J. S. Marsh	32,375
Harvesters	Ira Jewell	32,400
Harvesters	C. P. Wing	32,443
Harvesters	Fred. Landon	32,446
Harvesters	Robert Brown	32,556
Harvesters	G. W. Richardson	32,669
Harvesters	Wm. K. Miller	32,707
Harvesters	McClintock Young, jr	32,807
Harvesters	J. Q. A. Frazier	32,828
Harvesters	G. S. Reynolds	32,915
Harvesters	John Woody	33,120
Harvesters	Worden P. Penn	33,263
Harvesters	John F. Sciberling	33,496
Harvesters	Wm. McIntosh	33,533
Harvesters	James Pine	33,557
Harvesters	E. P. Russell	33,712
Harvesters	W. A. Wood	33,862

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Harvesters	Daniel L. Emerson	33,918
Harvesters	Harvey L. Hopkins	33,943
Harvesters	R. H. C. Preston	33,975
Harvesters	George S. Knapp	33,997
Harvesters	E. P. Russell	34,014
Harvesters	William Van Anden	34,019
Harvesters, Binding Attachment to	S. D. Harris	31,540
Harvesters, Binding Attachment to	Clark Alvord	31,584
Harvesters, Binding Attachment to	C. Powers and P. Lancaster	33,601
Harvester, Cane	W. B. Robertson	31,406
Harvesters, Clover	Frederick Decker	32,416
Harvesters, Clover	David Hinkle	32,602
Harvesters, Corn	J. V. Brower	33,026
Harvesters, Corn	S. H. Hamilton	33,142
Harvesters, Corn and Cane	Wm. M. Mason	33,204
Harvesters, Cutting Apparatus	D. H. Thayer	31,854
Harvesters, Cutting Apparatus of	T. C. Hargraves	33,941
Harvesters, Cutting Apparatus for	A. Stoler and S. A. Sisson	33,966
Harvesters, Cutting Apparatus for	L. G. Kniffen	33,959
Harvesters, Fingers for	E. P. Russell	31,745
Harvesters, Finger Guards for	M. L. Ballard	31,218
Harvesters, Finger Guards for	M. L. Ballard	31,219
Harvesters, Finger Guards for	M. L. Ballard	31,220
Harvesters, Finger Guards for	M. L. Ballard	31,284
Harvesters, Finger Guards for	Lewis Miller	31,285
Harvesters, Grain and Grass	O. Billings	33,691
Harvesters, Grain and Grass	Lewis Miller	33,895
Harvesters, Guard Fingers for	K. H. C. Preston	33,265
Harvesters, Reels for	E. P. Russell	33,713
Harvester Cutter Grinder	E. F. Keeling	33,043
Harvesting Machines	E. H. Wheeler	31,275
Harvesting Machines	Rufus Dutton	31,378
Harvesting Machines	F. H. Manny	32,197
Harvesting Machines	Thomas S. Whitenack	32,216
Harvesting Machines	T. C. Hargrau	32,233
Harvesting Machines	Franklin Clark	32,602
Harvesting Machines	Wm. A. Kirby	32,736
Harvesting Machines	J. M. Orput	33,158
Harvesting Machines	Wm. Neff	33,539
Harvesting Machines	J. C. and C. N. Maberry	33,748
Harvesting Machines	Lewis Miller	33,845
Hats, Die for pressing	Wm. E. Doubleday and S. H. Lyon	31,592
Hats, Machine for finishing	J. H. Le Bau	31,177
Hats, Men's	Thomas W. Adams	34,043
Hats, Military	C. L. Pascal	33,900
Hats and Caps, Shaping and embossing	A. L. Bailey	31,944
Hat Blocks	W. W. Cumberland	31,442
Hat Bodies, Felting	Roswell Northrop	31,732
Hat Bodies, Felting	Russell Smith	32,500
Hat Bodies, Forming	G. E. Beatty and C. S. Beatty	32,346
Hat Bodies, Machine for making	J. F. Greene	31,053
Hat Bodies, Sizing	W. E. Hatfield	33,867
Hay, Loading	J. B. McIntosh	31,470
Hay, Machine for gathering	F. F. Fowler	31,102
Hay, Machine for loading	L. Mishler	33,359
Hay, Raking and cocking	L. R. Stone	31,568
Hay, Raking and loading	M. G. Couch	32,860
Hay, Turning and spreading	E. W. Rullard	32,350
Hay, Grain, &c., Ventilating	Abel Post	32,584
Hearth, Blacksmith's	John Cavender	33,132
Heaters	George W. Oakeley	33,849
Heaters for Cheese Vats	Howell Cooper	31,373
Heaters, Parlor	John Carton	33,474
Heater and Boiler	S. A. Willett	32,731
Heating Apparatus	Ambrose Kohler	32,427

Invention or Discovery.	Name of Patentee.	No.
Heating Apparatus	Porter Mitchell	32,639
Heating Apparatus	M. Greenebaum	33,483
Heating Apparatus, Steam	William C. Baker	32,458
Heating Apparatus, Steam, Automatic Regulator for.	Charles Cregg	32,559
Heating buildings	Wm. D. Bartlett	32,955
Heating Railroad Cars with steam	G. W. Sampson	32,843
Heating and ventilating Railroad Cars	T. F. Strong	32,726
Hemmer and Finger Shield for hand sewing	A. H. Downer	31,878
Hemmers and Folders	J. and F. Stevens	31,833
Hemmers for hand-sewing	J. O. Whitcomb	32,035
Hemming Guides	Josiah Howell	31,602
Hemming Guides	G. L. Jencks	32,519
Hemp or Flax, Dressing	G. F. Schaffer	33,625
Hides, Dressing	Horace L. Arnold	33,229
Hinge	Samuel Ehrman	31,230
Hinges	C. M. Lane	32,482
Hinges	George H. Dodge	33,830
Hinges, Butt	Christian Sholl	32,927
Hinges, Butt, Making	Edw. Brown and W. H. Van Gieson.	31,949
Hinges, Gate	Samuel J. Olmsted	31,852
Hinges, Riveting	J. W. Valance and Hiram Littlejohn.	33,174
Hoes	Philip and Henry E. Crapo	32,982
Hoes, Garden	Jonathan Howard	31,977
Hoes, Manufacture of	Walter Baker	32,344
Hoe Blanks, Machine for manufacture of	Nathan Brand	31,525
Hog Cholera, Medical compounds to cure	J. Lighter	31,723
Hogs from rooting, Preventing	R. Little	31,610
Hoisting Apparatus	E. G. Otis	31,128
Hoisting Block	Watson Duchemin	33,929
Hoisting Devices	J. J. Doyle	31,077
Hollow Ware, Hanging covers to Bailed metallic.	Ezra Ripley	31,035
Hominy Machine	David Haines	32,516
Honeycomb, Artificial	Samuel Wagner	32,258
Hooks for attaching and detaching boats	H. Davidson	32,036
Hooks, Fish	W. S. Morris	31,395
Hooks, Hold-Back	W. B. Winchell	33,915
Hook Ladder, Adjustable	Willard T. Farrar	31,963
Hook for nautical use	John Brooke	32,408
Hook, Safety, for harness	Henry Beagle, jr	31,946
Hook, Self-closing	J. P. James	32,872
Hook, Tackle-block	William H. Birdsall	33,413
Hooks, Whiffletree	Charles Bentz	32,678
Hooks and Eyes	A. C. Mason	32,031
Hooks and rings, Swivel	Josiah Lees	33,653
Hooks and Staples, Bending	Simeon Brooks	33,733
Hoops to ladies' Skirts, Clasping	B. A. Mann	34,026
Hoop-Skirts	Henry Cook	33,517
Hoop-Skirts, Punches for making sides for	Henry Scheuerle	31,038
Hop Frames	L. A. Beardsley	33,177
Horses, Harness for preventing the fore legs of, interfering.	D. G. Kellete	31,174
Horses, Harness for shoeing	J. P. Reynold	31,213
Horses, Pulleying	A. H. Trego	32,801
Horse, Rocking	J. A. Crandall	31,302
Horses, Rocking	A. Christian	31,869
Horses, Rocking, Spring	W. E. Vincent and C. B. Northrup	33,552
Horses, Toy	J. A. Crandall	31,571
Horses, Weight and hitch straps for fastening	D. S. Bartlett	31,104
Horse Collar Block	Orson Morgan	32,708
Horse Powers	Gelston Sanford	31,090
Horse Powers	T. J. Bottoms	31,294

Invention or Discovery.	Name of Patentee.	No.
Horse Powers	J. S. Upton	31,342
Horse Powers	Augustus Adams	32,673
Horse Powers	G. E. Burt	33,028
Horse Powers, Constructing	Thomas Schankwiler	33,755
Horse Powers, Tread of, and endless chains	G. E. Burt	33,024
Horse Power Machines	E. J. Keep and W. H. Briggs	33,252
Horse Power Machines	H. B. Middaugh and Albert Clark	33,358
Horseshoe	Eben Cate	31,298
Horseshoe	J. B. Kendall	33,709
Horseshoes, Calks for	J. H. Jennings	32,371
Horseshoes, Forming	Ebenezer Cato	31,780
Horseshoes, Making	C. H. Perkins	32,645
Horseshoes, Making	Uriah Billings	33,692
Horseshoes, Toe-calking for	C. H. Perkins	31,995
Horseshoe Iron, Formation of	Ebenezer Cate	31,781
Horseshoe Iron, Rolling	Charles Richardson	33,452
Horseshoe Machines	D. N. Allard	31,941
Horses or Mules, Training to rack	Commodore Daniels	32,185
Hose, Fire Engine, Mending	J. S. Mackay	31,143
Hose, Waterproof	Thomas J. Mayall	31,614
Hose Nozzles	William Jeffers	33,200
Hose Tubing, Caoutchouc	T. J. Mayall	31,552
Hotel Annunciator	J. H. H. Bennett	33,926
Houses, Portable	David N. Skillings	33,758
Hubs to axles, Attaching	C. H. Denison	33,577
Hubs, Wagon Boring	John Thompson	33,012
Hub Machine	I. N. Felch	31,161
Hullers, Buckwheat	C. B. Horton	33,040
Hulling, cleaning and grinding grain	Charles F. Campbell	33,338
Husking Pins	William Sherwin	33,309
Huts, Portable	Andrew Derrom	32,757
Hydrants	J. P. Kenyon	31,464
Hydrants	Joseph Neumann	32,333
Hydrants	George M. Seldon	33,054
Hydrants	B. F. Moore	33,095
Hydrants	Levin P. Clark	33,185
Hydrants	Dewitt C. Cregier	33,239
Hydrants	George H. Rogers	33,282
Hydraulic Pressure Indicator	J. E. Wooten	32,329
Hydraulic Rams, Directing water to and maintaining continuous pressure upon.	T. Harbottle and M. F. Fowler	33,585
Hydrometers	James Adams	31,109
Hydrometers	A. H. and C. R. Black	31,773
Ice Cutting	J. Fielemeyer	31,307
Ice Crusher	John Middleton	31,027
Ice Crusher	John L. Rowe	31,766
India-rubber, Utilizing waste vulcanized	Charles McBurney	33,094
India-rubber in the mould, Giving smooth surfaces to.	Frederick Simon	32,901
India-rubber and other gums, Arrangement of metallic plates for vulcanizing.	Oscar Falke and Edw. Simon	33,523
India-rubber Goods	Hiram Hutchison	31,391
India-rubber Goods, Applying flocks to felt	Isaac F. Williams	33,808
India-rubber Mats	T. J. Mayall	34,001
India-rubber Pencil Heads, Moulds for shaping.	Arthur Neill	31,187
India-rubber. (See, also, *Caoutchouc and Rubber.*)		
Injector, Giffard's, Operating	James Millholland	33,957
Inkstands	Jos. W. Ross	32,207
Inkstands, Barometer	T. S. Hudson	32,493
Insects, Reptiles, &c., Apparatus for destroying.	Caleb Russell	32,720
Invalids, Removing	Jacob Ruth	33,545
Iron, Centring bars of	N. F. Newell	31,257
Iron Corrugating	J. S. Vernam	31,068

Invention or Discovery.	Name of Patentee.	No.
Iron, Manufacture of	A. L. Fleury	32,826
Iron, Manufacture of	W. H. Perry	33,006
Iron, Sheet	D. A. Morris	31,184
Iron, Sheet, Manufacture of	W. D. Wood	32,341
Iron, Sheet, Manufacture of	William Reiss, sr	33,214
Iron, Tools used in Manufacture of	A. L. Fleury	31,450
Iron and Steel, Making	Marcus Lane	33,949
Iron and Steel, Manufacturing malleable cast, and deoxydizing Ores.	A. K. Eaton	32,621
Iron from water of salt wells and springs, Separating compounds of.	George H. Cook	33,574
Irons, Flat, Guard to	J. C. Briggs	31,295
Iron Bars and Rods, Polishing	Bernard Lauth	31,546
Iron Castings, and preparing Cast Iron Patterns, Reducing.	H. R. Ely	31,880
Iron Masts, Steeples, &c.	E. S. Boynton	31,777
Iron Ore, Reduction of	William Quann	33,020
Irregular forms, Forming and punching articles of.	Levi Dodge	31,660
Irregular forms, Turning	Jonathan Crager	31,656
Irrigating Streets, Apparatus for	J. P. Elliott	32,278
Jack, Boot	H. M. De Graw	31,374
Jack, Boot	W. H. Towers	32,490
Jack, Boot	Moses T. Ridout	33,543
Jack, Boot and pantaloon	J. S. Clough and S. S. Day	32,181
Jacks, Hydraulic	R. Blackwood	32,612
Jacks, Lifting	Samuel Shoemaker	33,608
Jack, Whirling for tops, &c.	Julius Wright	33,284
Jars, Preserve	J. M. Whitall	32,594
Jar, Preserve	N. S. Gilbert	33,938
Jars, Stoppering	W. D. Ludlow	33,002
Jewelry, Making joint wire or stock for	Andrew J. Wiley	33,807
Journals, Mode of Oiling	Joseph Wood	33,871
Journal Boxes	N. W. Clark	31,297
Journal Boxes	Davis H. Dotterer	32,243
Journal Box	Joel Webster	32,604
Journal Boxes	O. T. L. Heine and E. Prussing	33,992
Journal Boxes, Lining	Joseph Corduan	31,655
K.		
Key, Edge	Edwin Campbell	32,230
Key, Fastener	E. H. Bailey	31,939
Kilns, Lime	R. Donaldson	31,445
Knapsacks	George D. Arrington	33,329
Knapsacks	Thomas Garrick	33,343
Knapsacks	Joseph Short	33,726
Knapsack, Overcoat, and Tent	Joseph Short, 2d	33,468
Knapsack and Bed in combination	B. Frodsham and M. Levett	33,385
Knife of feed cutters, Adjustable	J. R. Whittemore	32,936
Knives, Means of attaching forks and spoons to.	Nathan Ames	33,730
Knife and fork, Construction of	J. W. Hardee	33,703
Knife, Fork, and Spoon, Combined	William H. Richards	32,916
Knife, Fork, and Spoon, Combination of	Nathan Ames	33,285
Knife Cleaner	Oliver Sweeny	31,193
Knife Cleaner	George Smith	32,902
Knife Sharpener	J. W. Hyatt, jr., and J. S. Hyatt.	31,461
Knitting Machines	Joseph Hollen	31,020
Knitting Machines	J. B. Aiken	31,287
Knitting Machines	M. L. Roberts	31,404
Knitting Machines	Orson Parkhurst	31,647
Knitting Machines	J. K. and E. E. Kilbourne	31,984
Knitting Machines	Joseph Dalton	32,241
Knitting Machines	S. W. Howland	32,295

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Knitting Machines	Walter Aiken	32,674
Knitting Machinery	John Terrell	31,042
Knobs to doors, &c., Securing	Charles Ward	33,759
L.		
Ladder	George Aldrich	32,178
Ladders, Fire-Escape	W. A. Shannon	33,963
Ladders, Fire-Escape	Anthony Iske	33,785
Lamps	C. H. Dolbeare	31,012
Lamps	Henry Liebert	31,024
Lamps	O. C. Evans	31,160
Lamps	Emil Tritten	31,271
Lamps	W. H. Topham	31,496
Lamps	C. W. Cahoon	31,511
Lamps	John T. Clegg	31,870
Lamps	Fred. Heidrick	31,887
Lamps	Anson Judson	31,983
Lamps	Joshua E. Ambrose	32,110
Lamps	M. L. Callender	32,118
Lamps	Jacob Stuber and Fred. Frank	32,155
Lamps	Joseph Thomas	32,156
Lamps	Fred. Heidrick	32,248
Lamps	W. Freeman	32,358
Lamps	Walter Hunt	32,402
Lamps	John Russell	32,721
Lamps	J. C. Wright	32,847
Lamps	S. S. and A. J. Post	32,851
Lamps	William Pitt	32,889
Lamps	Joseph Thomas	33,906
Lamps	L. J. Worden and A. Leach	32,918
Lamps	U. B. Vidal	32,930
Lamps	Carlton Newman	33,047
Lamps	Henry Hassenpflug	33,084
Lamps	William P. Patten	33,102
Lamps	John J. Gwynn	33,140
Lamps	A. H. Platt and W. S. Rosecrans	33,402
Lamps	A. Odell and W. A. Burrows	33,447
Lamps	John H. Irwin	33,588
Lamps	August Kaestner	33,649
Lamps	William Morehouse	33,749
Lamps	John Mulvaney	33,791
Lamps	Charles W. Cahoon	33,824
Lamps	Charles W. Cahoon	33,825
Lamps	Emil Trittin	33,859
Lamps	David A. Moore	33,898
Lamps	David Hughes	33,945
Lamps	R. B. Pullan	34,029
Lamps	E. D. Rosencrantz	34,030
Lamps, Glass	Jacob Reighard	32,739
Lamps, Improvement in	E. F. Slocum	32,537
Lamps, Kerosene, Attachment to	H. H. Dickinson	33,879
Lamps, Reflectors in	W. G. Schmidlin and J. Driscoll	33,962
Lamps, Vapor	C. B. Loveless	31,179
Lamps, Vapor	Levi Short	31,282
Lamps, Vapor	Neil Clifford	32,755
Lamps, Vapor	C. C. Coe	32,808
Lamps, Vapor	Mills L. Callender	33,773
Lamp or Candle stand	F. A. Marshall	31,251
Lamp and Candle Wicks	Stephen R. Weeden	31,045
Lamp Chimneys, Implements for handling	A. H. Merrill	33,170
Lamp Chimneys, Instrument for cleaning	T. B. De Forest	31,111
Lamp Shade	Benjaimn Arnold	32,740
Land, Ploughing and Tilling	John Fowler, jr	32,809
Land, Tilling by Steam	John Fowler, jr	32,810

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Lanterns	E. J. Hale	31,713
Lanterns	James Hale and J. S. Atterbury	31,714
Lanterns	George H. Magersuppe	31,896
Lanterns	E. B. Coffin and A. H. Sylvester	32,161
Lanterns, Carriage, and Axle Lubricator, Combined.	John Scheeper	33,853
Lanterns, Coal Oil	S. Sargent	33,312
Lanterns, Railroad Signal	N. A. Menaar	32,377
Lanterns, Signal	H. C. Felthousen	33,831
Lard, Processes for refining	H. S. Lewis	32,633
Lard and Tallow, Rendering	James Turner	33,219
Lard and Tallow, Rendering	James Turner	33,969
Lasts, Shaping	E. R. Stillwell	33,313
Latches, Door-guard attachment for	William Milier	33,682
Latch, Gate	John Ellis	32,990
Latches, Locks, and Knob	W. S. Kirkham	32,521
Latches, Locks, and Knob	A. M. Hill	32,551
Latch, Thumb	John Range	32,339
Lath Machine	Albert Gummer	32,103
Lathes, Engine Rests for	Henry Morrison	33,399
Lathe for turning Broom Handles	Peter Prescott	33,466
Lathes, Watchmaker's	Charles Trfoby	31,340
Lead, Oxychloride of	Ludwig Brumlen	31,224
Lead, White, Manufacturing	George Cary	33,337
Leather, Coloring skins and	Jehu Brainerd	33,331
Leather, Composition for water-proofing	R. Goldenblum and F. Steiner	31,453
Leather, Finishing	William Ellard	31,879
Leather, Machines for dressing	Charles Korn	32,629
Leather, Preparing the flanking for soleing	Davoust Kern	32,628
Leather, Splitting	J. A. Safford	31,746
Leather, Tanning	Phylander Daniels	31,349
Leather, Tanning	H. McKenzie	32,526
Leather, Trimming	Samuel P. Pope	33,264
Leather Straps, creasing and finishing	W. McK. Thornton	31,094
Leather and other substances, Cement for	S. F. Hilton	33,065
Legs, Artificial	Douglas Bly	31,438
Letter Balance and Penholder, Combined	D. C. Lawrence	33,091
Lever Escapement	Prosper Humbert	31,022
Light, Deck	Henry Lanergan	31,247
Lights, Electric	John Thomas May	33,257
Lights, Electric	John Thomas May	33,458
Lights, Obtaining, by frictional electricity	Maurice Wesolowski	31,273
Lights, Signal, Railroad	Jacob Pfeiffer	33,600
Lights, Vault, Setting	John Gault	33,480
Linen Smoother	Horatio Rodd	32,001
Liquids, Apparatus for evaporating	H. Hathaway	31,018
Liquids, Apparatus for evaporating	John Trageser	32,542
Liquids, Decalcifying	Carlos Garcia	31,650
Liquids, defecating saccharine	Jules Duval	31,304
Liquids, Elevating by retained Power	Rufus Porter	33,226
Lithographic Stones, mounting	G. H. Reynolds	31,033
Locks	Titus Powers	31,258
Locks	S. C. St. John	31,267
Locks	Linus Yale, jr	31,278
Locks	F. G. Johnson	31,320
Locks	Henry Hartwig	32,225
Locks	Henry Hartwig	32,226
Locks	J. J. Hurshbuhl	32,289
Locks	Linus Yale, jr	32,330
Locks	Linus Yale, jr	32,331
Locks	Moses Ducharme	32,334
Locks	John Adt	32,605
Locks	Charles Claude	33,476
Locks	R. S. Eddy and A. O. Miles	33,931
Locks, Combination	F. W. Alexander	32,171

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Locks, Door	Solomon Fry	32,218
Locks of Fire-Arms	Prince Hilfer	32,188
Locks of Fire-Arms	William Frank	33,245
Locks, Guard, attachment for	P. S. Felter	33,932
Locks, Gun	J. Homer Smith	33,371
Locks, Hoop	Charles Hughes	31,319
Locks, nosing for	J. L. Rowe	31,356
Lock for the Nuts of Railroad bolts	H. Lawrence and C. H. White	32,886
Locks for Railway cars	Thomas Slaight	31,332
Locks, Safe	Charles Le Due	33,655
Locks, Trunk	E. L. Gaylord	31,235
Locks, Wagon	Thomas Service	32,086
Lock Attachment	P. P. Stephan	31,337
Locks and Knob Latches	W. S. Kirkham	32,521
Locks and Knob-Latchers	A. M. Hill	32,551
Locket and watch rims, Making	D. B. Waite	32,159
Locomotion, Apparatus for	Elisha Matterson	32,447
Locomotives	John L. Whetstone	33,760
Locomotive Apparatus	E. R. Morrison	33,019
Locomotives, Connecting rods for	David Pollock	33,902
Locomotives, Turning	Gilbert M. Cole	33,294
Looms	William Murkland	31,324
Looms	Francis Peabody	31,617
Looms	George Copeland	31,956
Looms	George Crompton	32,123
Looms	John Shinn	32,236
Looms	Alexander Frey	32,245
Looms	Wm. Graichen and C. Hoffman	32,267
Looms	Casper Zuricki	32,501
Looms	Jeremiah A. Marden	33,397
Looms	George Crompton	33,520
Looms, Circular, for weaving hats	Louis Bonard	32,461
Looms, Hair-cloth	John Noblit	31,992
Looms, Hand	J. G. Henderson	31,019
Looms, Harness motion for	B. F. Knowles	31,176
Looms, Let-off for	William H. Gray	31,969
Looms, Let-off motion for	Rensselear Reynolds	32,382
Looms, Pickers for	Samuel Boorn	31,776
Looms, Pickers for	Samuel Boorn	31,948
Looms, Picker-motion for	John Robinson	32,586
Looms, Power	Thomas King	32,068
Looms, Power, Stop-motion for	Thomas Foden	33,383
Loom Handles, Varnishing	J. L. Lairdieson	33,948
Looms for weaving hair-cloth	Isaac Lindsley	32,634
Lounge, Cot, and Chair	G. B. Gurley and O. G. Brady	33,192
Lounge and Camp Stool, Combined	O. P. Pell	33,362
Lubricating Compositions, Metallic	C. B. Lawrence	33,438
Lubricating Compound	William Turner	31,512
Lubricating Compound	A. Lebkücher	32,639
Lubricating Cup	Charles S. Westland	33,561
Lubricator, Alxe, and Carriage Lantern, Combined.	John Scheeper	33,853
Lubricator or Oil Cup	Robert Pross	33,508
Lubricator for Spinning machinery	C. Hardy	31,972
Lumber, Instrument for measuring	Charles Fleming	31,308
M.		
Machinists' instrument for determining geometrical lines, &c.	R. B. Light	31,987
Magnets, Relay	Leigfried Marcus	33,254
Maize suitable for grinding, Preparation to render.	S. P. McCroskey	32,448
Malt Liquors, Preserving and discharging	Louis Dungan	33,637
Manacles	Alfred Delastatius	33,917

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Man Power, Application of	T. W. Haskings	32,369
Manger, Portable	Thomas Fisler	33,242
Manure from Fish, Manufacture of	J. B. Hyde	33,706
Manures, sowing Pulverized	N. G. Swift	32,800
Marking Brand	B. B. Hill	33,868
Marking Brush	Thaddeus Fowler	33,986
Marking corn furrows, Device for	George G. Cross	33,478
Mast, Steeples, &c., Iron	E. S. Boynton	31,777
Match Holders	L. J. Johnson	32,735
Mats for Daguerreotypes, &c.	John Dean	34,035
Mattresses, cushions, &c., Material for	Bridge Frodsham	33,777
Mattress, floating	William Williams	31,048
Meat, Injecting, with Brine	James C. Adams	33,228
Meat, Preserving	Daniel E. Somes	32,009
Meat chopper	Jacob H. Landis	31,669
Medical Powder papers, Machine for filling and folding.	Mark S. Palmer	32,642
Melodeons	William F. Sheldon	32,654
Melodeons	William H. Bigelow	33,180
Melodeons	Riley Burditt	33,278
Meridian Instruments	Fred. Yeiser	33,970
Metal, Machine for cutting and punching sheet	E. C. Fraser	31,380
Metal, Ornamenting hollow articles of	D. R. Pruden	32,850
Metal, Sheet, Double seaming	S. Sweeney and S. Parks	32,799
Metal, Swaging sheet	W. H. Beach	31,347
Metals, Treating	Marcus Lane	33,099
Meters, Gas	Samuel Clegg	32,049
Meters, Gas, Dry	Lewis Boore	32,747
Meters, Gas, Dry	J. A. Sabbaton	32,788
Meters, Gas, Gearing for	John S. Elliott	31,791
Meters, Liquid	James C. Cook	33,675
Meters, Water	F. G. Johnson	31,055
Meters, Water	J. S. Shailer and G. F. Folson	31,830
Meters, Water	G. Kober	32,878
Meters, Water	Joseph Thomas	33,406
Meters, Water	Benjamin S. Church	33,475
Meters, Water	Silas Barker and A. H. Smith	33,690
Meters for Water-Gas, &c.	H. Q. Hawley	33,348
Microscopes, Portable	R. P. P. Dagron	33,031
Mills	William Stewart	31,492
Mills, Cider	H. T. Watkins	31,344
Mills, Cider	S. and R. W. Caldwell	32,000
Mills, Cider	Jacob Diehl and Wm. Wilson	32,988
Mills, Cider and Wine	Joseph R. Gates	33,581
Mills, Cob and feed	H. Ormsby and E. R. Sumner	32,914
Mills, Coffee	Edmund Parker	33,599
Mills, Gig	Robert Kershaw	34,038
Mills, Grinding	S. S. Howard	32,565
Mills, Grinding	F. W. Krause and G. W. Strong	32,570
Mills for grinding apples	Leander McKee	31,553
Mills for grinding grain	Victor Fouchin	33,301
Mills for grinding paper pulp	Jos. Jordan, jr	31,321
Mills for grinding paper pulp	Gelston Sanford	31,408
Mills, Grinding, Threshing cylinder and Corn Sheller.	C. Bailey	31,112
Mills, Saw	W. M. Ferry, jr	32,418
Mills, Saw	George C. Barnes	33,425
Mills, Saw, Setting the log in	Dennis Lane	32,774
Mills, Sugar	Martin Roe	31,828
Mills, Wind	Willis Holmes	31,121
Mills, Wind	G. H. Reister	31,141
Mills, Wind	A. Giraudat	31,798
Mills, Gearing	J. H. Glover	31,078
Mill Picks	Peter Faver	31,964
Mill Picks	Benjamin Hostler	32,190

Invention or Discovery.	Name of Patentee.	No.
Millstones, Cleaning and feeding grain to burr..	S. G. Morrison	32,578
Millstones, Devices for leveling	Andrew Dray	32,593
Millstones, Diamond protector for dressing....	John Dickinson	33,187
Millstones, Facing and polishing	Edmund Munson	31,255
Millstones, Machine for dressing	H. B. Weaver	31,142
Millstones, Ventilating	S. G. Morrison	32,579
Mineral Matter, Crushing and pulverizing vegetable and.	Matthew Smith	33,405
Mining Pan	John A. Brock	32,115
Mining Picks, &c., Making	Elisha Hughes	32,249
Mirrors, &c., Electro-plating the silvered surfaces of.	Justus Von Leibig	33,721
Mop	Arthur Hemenway	33,390
Mop Holder	William R. Axe	31,586
Mortising Machine	S. S. Bartlett	33,330
Mortising Machine, Boring or	S. W. Bidwell	32,509
Mosquito Bar	Samuel Roebuck	33,365
Mosquito Bar Frame	James Higgins	32,943
Mosquito Net	T. G. Voorish and W. B. Whiteman.	32,018
Motion, Converting reciprocating into rotary..	Turner Williams	31,649
Motion, Mode of transmitting	Coleman Sellers	33,263
Motion, Picker	William Nugent	32,308
Motion, Registering reciprocating and rotary..	Francis B. Hall	32,133
Motion, Stopping and changing	Fr. A. Pratt	33,816
Motion, Transmitting	Samuel Andress	31,522
Motion, Transmitting	Mathaus Kaefer	31,607
Motion, Transmitting	J. W. Howlett	31,978
Motion into rotary, Converting reciprocating..	J. C. Butterworth and B. H. Arnolds.	32,749
Motive Power	Louis Tilliers	33,112
Motive Power	A. Giraudot	33,139
Moulds for casting pipe	Samuel Fulton	32,058
Moulds, Mode of heating	Henry Movers	33,846
Mouldboard blanks	W. M. Watson	33,672
Mouldings, Cutting wooden	A. H. Brown	31,207
Mouldings, Laying metal leaf on	Robert Marcher	32,950
Mouldings, Preparing patterns for	Hanson Wright	31,051
Moulding Machine, Power	Henry A. Billings	33,291
Movement, Mechanical	Josiah James	31,606
Mowing Machines	T. H. Dodge	31,520
Mowing Machines	George W. Jennings	31,668
Mowing Machines	E. R. Pease	31,692
Mowing Machines	Rufus Dutton	31,705
Mowing Machines	John H. Rible	31,907
Mowing Machines	E. F and J. Herrington	31,973
Mowing Machines	Henry Fisher	32,244
Mowing Machines	J. D. L. Watkins and R. Bryson.	32,908
Mowing Machines	Asa L. Darby	33,296
Mowing Machines	L. G. Kniffen	33,998
Mowing Machines, Hand	L. M. Doudna	33,578
Mowing and Reaping Machines	C. H. McCormick	33,658
Mowing and Reaping Machines, Cutting apparatus for.	C. H. McCormick	33,656
Mowing and Reaping Machines, Metallic finger-beams for.	C. H. McCormick	33,657
Mowing and Reaping Machines. (See, also, *Reaping Machines.*)		
Music, Printed, Portfolios for filing	J. C. Koch	32,374
Musical Instruments, Metallic reeds for	A. J. Hammond	33,143
Musical Instruments, Swells for	H. Woodbury	33,322
Musical Instruments, Tuning-pin for	Samuel Clark	31,589
Muzzles for dogs and other animals	C. F. Schmidt	31,911

Invention or Discovery.	Name of Patentee.	No.
N.		
Nails, Cut, Annealing	James McCarty	32,525
Nails, Horseshoe, Clinching	J. E. Draper	32,989
Nails, Horseshoe, Machines for	S. S. Putnam	32,531
Nail Heads, Improvement in	W. H. Nichols and F. D. Strong	32,527
Nail Machine	Alfred Owen	31,397
Nail Machine	Ezra G. Hall	32,263
Nail Machine	J. L. Krauser	33,018
Neck-Ties	E. C. Townsend	33,766
Needles	George Cooper	31,153
Needles, Eyes of, Polishing	Charles Kaiser	33,947
Needles, Making	Charles Kaiser	33,707
Needles, Sewing machine	Charles H. Wilcox	31,757
Needle Points, Grinding	Charles Kaiser	33,042
Newspapers, Machines for addressing	H. A. Gage	33,763
Newspaper Files	H. W. White	31,200
Newspaper Files	H. S. White	31,919
Newspaper Wrappers	L. P. Mara	31,516
Nuts, Seamless Screw, Casting	J. G. Holt	33,783
Nuts, Tapping and Cutting Screws, Machine for.	G. Bennett and R. Dalzell	31,148
Nut Machines	P. Miles	31,056
O.		
Oar	Thales Lindsley	33,001
Obstetrical Bandages	Martha Willis	31,843
Oil, Coal, Distilling	G. W. Kirchoffer	32,373
Oils, Coal, Distilling	H. P. Gengembre	33,699
Oils, Distillation of Hydro-carbon	Joshua Merrill	32,704
Oils, Distilling	Abraham Quinn	31,998
Oils, Distilling	E. G. Kelley and A. H. Tait	32,568
Oil from fish, Extracting	A. M. Millochan	31,765
Oils, Hydro-carbon, Distillation of	J. J. Johnston	31,982
Oils, Hydro-carbon, Manufacture of	Luther Atwood	31,858
Oils, Lubricating	S. M. Mott	32,885
Oils, Manufacture of Hydro-carbon	Joshua Merrill	32,705
Oils for the manufacture of varnish, &c., Treating drying.	Fred. Walton	33,722
Oil Cup or Lubricator	Robert Pross	33,508
Oil Wells, Drilling	R. H. Lecky	33,351
Oilers	L. H. Olmsted	33,751
Ordnance	B. T. Babbitt	31,291
Ordnance	T. J. Mayall	32,376
Ordnance, Breech-loading	L. C. T. Weber	31,044
Ordnance, Breech-loading	J. S. Butterfield	32,238
Ordnance, Breech-loading	Edward Hamilton	32,768
Ordnance, Breech-loading	Hiram Stanhope	32,921
Ordnance, Breech-loading	Jos. A. France	33,244
Ordnance, Breech-loading	Charles F. Leisen	33,530
Ordnance, Breech-loading	Christ. Grimshaw	33,582
Ordnance, Breech-loading	E. B. Butterfield	33,635
Ordnance, Breech-loading	Wm. S. Henson	33,646
Ordnance, Breech-loading	W. G. Sherwin, Jas. McFarland, and Charles Thieme.	33,756
Ordnance, Breech-loading	Henry F. Mann	33,787
Ordnance, Breech-loading	L. W. Broadwell	33,876
Ordnance, Breech-loading	Charles Alger	33,976
Ordnance, Breech-loading	J. A. De Brame	34,025
Ordnance, Cast-iron	J. A. Dahlgren	32,983
Ordnance, Cast-iron	J. A. Dahlgren	32,984
Ordnance, Cast-iron	J. A. Dahlgren	32,985
Ordnance, Manufacture of	R. P. Parrott	33,401
Ordnance, Repeating	Wm. McCord and Edm. Maher	33,813

Invention or Discovery.	Name of Patentee.	No.
Ordnance, Revolving	J. A. De Brame	34,624
Ordnance, Vent-stoppers of	J. J. Hirschbuhl	32,422
Ores, Desulpherizing coal and	J. I. Stover	32,012
Ores, Treating zinc and other	Adrien Muller	32,840
Ores of precious metals, Process for treating the	J. S. Withered and S. E. Woodworth.	31,499
Ore Separator	J. J. Muller	33,171
Ornamentation, Compositions for articles of	Wm. E. Houston	33,391
Ovals, Turning	A. H. Brown	33,334
Oval frames, Turning	Isaac P. Tice	31,837
Ovens	William Sellers	31,192
Oven for baking fire-brick	L. A. Boisson	31,150
Overcoat and Tent, Convertible	Henry J. Phillips	33,752
Overcoat, Tent and Knapsack	Joseph Short, 2d	33,468
P.		
Packing of pistons for steam engines	Jesse Young	31,847
Packing for stuffing boxes	Ross and Thomas Winans	31,346
Packing Case	H. D. Stone	31,569
Padlocks	J. J. Hirschbuhl	32,563
Padlocks	Thomas Slaight	33,715
Padlocks	E. M. and J. E. Mix	33,920
Paint, Article of	Isaac Tyson, jr	32,491
Pail, Ash	G. W. Walker	33,058
Paint, Preparation of oxide of zinc for a	Charles Tilterton	32,320
Pans, Bake	B. F. Miller	33,444
Pans, Camp and Bakers'	Chauncey Bush	33,514
Pans, Dust	G. H. Horstmann	32,368
Pans, Milk	C. F. Spaulding	33,903
Pantaloons, Guides for cutting out	J. Ramsey and A. B. Smith	32,145
Pantograph Machines	Robert Whittam	33,421
Paper, Drying	John Hoyt	32,870
Paper, Folding Machines for	Wm. H. and J. Milliken	31,578
Paper, Folding, parting and cutting	Cyrus Chambers	31,588
Paper, Letter	Thomas H. Dodge	32,167
Paper, Machines for damping	Andrew Dougherty	32,759
Paper, Machines for perforating	G. C. Howard	32,693
Paper, Preparation of fibre for the manufacture of.	J. E. Mallory	31,814
Paper, Printed, to remove ink from, and recover the pulp.	Benj. Lambert	32,879
Paper, Punching and perforating	G. C. Howard	32,370
Paper, Wall, machine for bronzing	W. G. Mackay	32,667
Paper-making Machinery	G. J. Wheeler, G. W. Dunnell, and W. Sharp.	31,215
Paper, pulp or stock	Henry Lowe	33,092
Paper Stock, Preparing	A. Randel	32,203
Papering Walls, Apparatus for	Bentley Masslich	33,004
Parasols and Umbrellas	F. G. Bancroft	33,472
Pasteboard	James H. Patterson	31,822
Pavements, Iron	Lucius Stebbins	33,610
Pavements, Iron, constructing	B. C. Smith	31,093
Pavement and Railway, combined	R. C. Smith	31,131
Pegging Machines	Moses Marshall	33,679
Pegging Machines, Hand	E. M. Stevens	33,022
Pencil	J. L. Faber	33,034
Pencil Sharpener	A. C. Funston	33,940
Pens, Fountain	P. C. Clark	31,298
Pens, Fountain-ruling guides for	J. H. Hobbs	31,515
Pen and Pencil Case	Charles W. Lord	33,894
Penholder	Joel Bryant	31,225
Penholder, Elastic	J. W. Pearson	33,160
Penholder and Letter Balance, Combined	D. C. Lawrence	33,091
Penman's Assistant	H. G. Eastman	33,638

Invention or Discovery.	Name of Patentee.	No.
Pendulums, compensating	Lewis Bradley	31,524
Perambulators, Children's Carriages or	J. A. Crandall	31,110
Percussion Caps, Implement for feeding	Louis Lelong and John Decamp	33,531
Percussion Shells	G. W. Gardner	33,835
Photographs on paper, Varnishing	D. W. S. Rawson	31,906
Photographic Album	F. R. Grumel	32,287
Photographic Album	H. T. Anthony and F. Phœbus	32,404
Photographic Apparatus	C. G. Anthoni	32,230
Photographic Cards, Cases for	William Miller	33,507
Photographic Medals	H. E. Copeley	31,871
Photographic Pictures, Apparatus for enlarging	John H. Whitley	31,060
Photographic Pictures, Baths for turning	Rufus Anson	31,432
Photographic Pictures, taking by artificial light	P. F. and W. S. Dodge	31,444
Photographic Plates, Dry, Boxes	J. and J. Stock	33,500
Photography	J. W. Osborne	32,668
Photolithographic Transfers	J. W. Osborne	33,172
Piano Bell	C. Williams and E. F. Falconnet	33,372
Piano-forte Action	I. J. Harwood	31,385
Piano-forte Action	Fred. Frickinger	32,863
Piano forte Action	H. S. Calenberg	33,427
Piano-forte Action	J. D. Boedicker	33,633
Piano-forte Action	Henry Steinway, jr	32,386
Piano-forte Action	Henry Steinway, jr	32,387
Piano-forte Keys	L. H. Brown	32,972
Piano-forte Keys, gaging and toothing ivory for	Elliot Savage	32,967
Piano-fortes, Square	C. F. Chickering	32,119
Pickers	Albert Holbrook	32,770
Pickers	Albert Holbrook	32,771
Pickers, Cotton	John Griffin	31,596
Pickers, Staff-motion	G. S. Bean	31,205
Picture Frames, Enamelling	J. Sperry and C. W. Sherwood	31,913
Piers, Mode of lowering into the water	C. Van Horn	33,615
Pins, Coating	Thaddeus Fowler	31,708
Pins, Self-fastening	Emile Martin	33,711
Pipe Casting	Samuel Fulton	32,359
Pipes, Cement and metal, Combination	Henry Knight	33,152
Pipes, Cement, Moulds for Earthen	Charles M. Pierce, jr	33,161
Pipes, Hose Gozzles for	Edward M. Wright	33,504
Pipes, Manufacture of hydraulic cement	Henry Knight	32,298
Pipes, Moulds for casting	Samuel Fulton	32,058
Pipes, Moulding	Benjamin S. Benson	33,178
Pipes of Plastic Materials, Moulds for Moulding.	John Chilver	32,754
Pipes, Stems for Smoking	Constantin Hingher	33,017
Pipes, Tobacco	E. A. Marshall	33,225
Pipes, Tobacco	Moses N. Ward	33,616
Pipes, Water	Arealous Wyckoff	32,100
Pipe Butts	L. S. Bunnell	32,464
Pipe Connexion, Stove	James H. Bell	31,652
Pipe Joint	Alfred C. Jones	32,135
Pipe Joint	S. R. Warner	33,275
Pipe Moulding Machine	Benjamin S. Benson	32,956
Pistons of Steam Engines	L. B. Batcheller	32,174
Pistons for Steam Engines	James O. Haight	31,971
Pistons of Steam Engines	T. S. Davis	31,303
Pistols, Toy	Abner Cutler and G. Jenkins	32,619
Pistols, Revolving, Base-pin and rammer of	W. H. Elliott	33,932
Plane	A. S. Cross	33,240
Plane, Bench, Bend Attachment for	L. O. Fairbanks	31,707
Plane, Rotary, Feeding Tapering lumber to	P. H. Woolsey	31,508
Planers, Rotary, Binding rollers for	A. T. Serrell	31,678
Planer, Veneer	George Williamson	31,070
Planing Machines	H. D. Stover	32,904
Planing Machine, Wood	George Rinewalt	32,926
Planters, Corn	A. W. Brinkerhoff	31,072

Invention or Discovery.	Name of Patentee.	No.
Planters, Corn	William Coombs	31,076
Planters, Corn	E. W. Kimball	31,085
Planters, Corn	J. Y. D. Murphy	31,186
Planters, Corn	W. C. Willey	31,201
Planters, Corn	L. K. Jenne	31,427
Planters, Corn	B. H. Elmore	31,448
Planters, Corn	F. B. Preston	31,579
Planters, Corn	John Cooley	31,700
Planters, Corn	William C. Ford	31,966
Planters, Corn	James M. Foy	32,056
Planters, Corn	David Humphreys	32,065
Planters, Corn	Powers Richey	32,084
Planters, Corn	J. Stone and J. F. Archibald	32,096
Planters, Corn	Charles K. Myers	32,168
Planters, Corn	H. J. Howe	32,234
Planters, Corn	Aaron Cotton	32,412
Planters, Corn	Adam Brightbill	33,015
Planters, Corn	G. D. Haworth	33,196
Planters, Corn	J. A. C. and A. S. Hickman	33,107
Planters, Corn	Rodney Welch	33,410
Planters, Corn	D. B. Abbey	33,688
Planters, Corn, Hand	Silas P. Briggs	32,178
Planters, Corn, Hand	S. Z. Shores	32,725
Planters, Corn, Hand	William Douglass	32,937
Planters, Corn, Hand	J. W. Chappell	32,975
Planters, Cotton Seed	L. B. Brown	31,107
Planters, Cotton Seed	Daniel Herlong	31,120
Planters, Seed	Stephen Johnson	31,354
Planters, Seed	C. C. Garrett	31,381
Planters, Seed	T. W. White	32,098
Planters, Seed	Lewis R. Wright	32,108
Planters, Seed	Daniel Broy	32,117
Planters, Seed	T. B. and R. N. Rockwell	33,053
Planters, Seed	J. F. Pond	33,103
Plants and Fruits, Method of growing	A. C. Chamberlain	33,774
Platforms, Extension	Andrew Morse	32,265
Ploughs	G. H. Moore	31,028
Ploughs	Lorenzo Wolfe	31,136
Ploughs	William Jarrell	31,172
Ploughs	Jeremiah Sweitzer	31,194
Ploughs	H. D. Rogers	31,407
Ploughs	Gabriel Utley	31,419
Ploughs	J. K. Gingrich	31,452
Ploughs	D. H. Maloy	31,549
Ploughs	J. M. Rodman	31,559
Ploughs	George and John Seibert	31,563
Ploughs	W. F. Shedd	31,565
Ploughs	Lyman D. Burch	31,654
Ploughs	J. Rulofson and D. De Garmo	31,677
Ploughs	George A. Walker	31,684
Ploughs	Loure Green	31,712
Ploughs	Daniel W. Smith	31,749
Ploughs	George W. Depew	31,761
Ploughs	J. A. Parlett and J. Thompson	31,903
Ploughs	Joseph B. Cooper	31,955
Ploughs	George W. Cooper	32,052
Ploughs	Henry F. Mann	32,073
Ploughs	Franklin Traxler	32,094
Ploughs	Edwin J. Fraser	32,129
Ploughs	Valentine Felker	32,231
Ploughs	Thomas Patterson	32,311
Ploughs	Zadock M. Beall	32,459
Ploughs	L. M. Steams	32,489
Ploughs	William Lape	32,666
Ploughs	T. S. and T. W. Rappleye	32,714

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Ploughs	Canfield Blodgett	32,746
Ploughs	John Dement	32,966
Ploughs	Henry S. Chichester	32,976
Ploughs	Chas. O'Bryan and Henry Kreps	33,096
Ploughs	Henry D. Martins	33,256
Ploughs	N. F. Burton	33,568
Ploughs	R. Coddington and D. McCall	33,573
Ploughs	Soloman Beard	33,621
Ploughs	Wilkinson Furnas	33,834
Ploughs	L. W. Shaffer	33,906
Ploughs, Capstans for	H. C. Drew	31,446
Ploughs, Corn	Charles E. Paxton	33,793
Ploughs, Covering	Washington Roberts	31,130
Ploughs, Device for securing shields to	J. F. Cameron	31,109
Ploughs, Ditching	Ferdinand Pimmer	31,399
Ploughs for Draining and Subsoiling	Loure Green	32,866
Ploughs, Gang	J. F. and W. L. Black	32,958
Ploughs, Gang	William B. Reedy	33,851
Ploughs, Hillside	Augustus Sanborn	32,587
Ploughs, Mole	Homer Gillet	31,117
Ploughs, Mole	J. A. Hammer and J. P. Gordon	31,313
Ploughs, Mole	M. A. Howell, jr	31,317
Ploughs, Mole	H. H. Ballard and H. McClure	31,771
Ploughs, Mole	S. F. Jones	33,149
Ploughs, Seeding	W. P. Penn	31,129
Ploughs, Seeding	W. P. Penn	32,924
Plough, Snow	F. J. Steinhauser	31,491
Plough, Snow	Robert Cassady and D. Clark	31,529
Ploughs, Steam	John K. Smith	32,153
Ploughs, Steam	S. L. Shotwell and R. S. Hicks	32,437
Ploughs, Steam	C. W. Saladu	32,652
Ploughs, Steam	J. W. Fawkes	33,882
Ploughs, Subsoil	J. F. Cameron	31,108
Ploughs, Subsoil	James McCollum	32,139
Ploughs, Subsoil	W. A. H. Burnham and Samuel B. Pierce.	33,131
Plough Clevis	R. A. Blair and John B. Reed	33,066
Ploughing and tilling land	John Fowler, jr	32,027
Ploughing and tilling land	John Fowler, jr	32,809
Ploughing and tilling land by steam	John Fowler, jr	32,026
Ploughing and tilling land by steam, Drums or pulleys to prevent ropes from slipping in machinery for	J. Fowler, jr., R. Burton, D. Greig, and J. Head.	32,912
Pockets of wearing apparel	Fenner Darling	31,227
Posts, Fence	William S. Mayo	33,310
Posts, Horse-hitching	Charles Bush	32,601
Posts, Setting	Patrick Burke	33,335
Potatoes, machine for digging	S. B. Conover and M. Spring	32,183
Potato diggers	T. C. Zulick	31,641
Potato diggers	F. A. Morley	32,781
Potato diggers	Perry Marcey	33,093
Potatoes, Digging	De Witt Clint and Ives Lynd	31,299
Potato masher	Alfred H. Lorton	33,654
Pots for glass-making	Edward Dithridge	31,011
Pottery, Machine for moulding	William Linton	31,394
Powder, Blasting, Composition for	W. R. Thomas and M. Emanuel, jr.	32,016
Power, Generating	Peter Shearer	31,631
Power, Transmitting	Thomas J. Lowry	32,070
Preserve Cans, Sealing	Henry S. Fisher	33,729
Preserve Jars	N. S. Gilbert	33,938
Preserving vessels	J. B. Wilson	33,870
Presses	Enoch Thomas	31,495
Presses	John Seitz, sr	31,630
Presses	Roswell Wakeman	31,841

Invention or Discovery.	Name of Patentee.	No.
Presses	Eli Huddleston and B. M. Harrison.	31,979
Presses, Cheese	Calvin Auborn	31,940
Presses, Cheese	John Patterson	32,142
Presses, Cheese	C. A. Codding	32,820
Presses, Cheese	W. H. Guy	33,248
Presses, Cheese and hook	D. P. Nickerson	33,157
Presses, Copying	C. Y. Heckler	32,363
Presses, Copying, Portable	Joseph H. Atwater	31,860
Presses, Cotton	Isaac Griffin	31,079
Presses, Cotton	A. Z. McBride	31,323
Presses, Cotton	P. G. Gardiner	31,796
Presses, Cotton	Filmon Gilbert	31,967
Presses, Cotton	Waldo P. Craig	32,240
Presses for hops, hay, &c	J. W. Shipman	33,798
Presses, Lithographic	Robert McNie	31,818
Presses, Lithographic Power	Bernard Ackerman	32,672
Press, Oil	J. S. Schuyler	33,173
Press for packing wool	George M. Cooper	31,784
Press for preserving hay and cotton	John K. Harris	33,083
Presses, Printing	G. & S. P. Gary	31,573
Presses, Printing	Charles Potter, jr	31,621
Presses, Printing	Albert S. Adams	31,760
Presses, Printing	George P. Gordon	31,130
Presses, Printing	Franklin L. Bailey	32,172
Presses, Printing	George R. Dean	32,242
Presses, Printing	Horace Goodrich	33,387
Presses, Printing	Charles Montague	33,897
Presses, Printing, Cylinder	F. O. Degener	33,676
Presses, Printing, Feeding paper to	O. Tallcott	33,217
Pressing Cheese	Horace A. Stone	31,834
Primer, Automatic, for fire-arms	J. H. Wells	34,020
Printers' Chase	Wm. O. Stoddard	32,798
Printers' Rules, mitring	G. H. Babcock	31,292
Printing Apparatus, Attaching blocks to belts of.	Alexander S. Davis	33,775
Projectiles for Fire-arms	Reuben Shaler	32,844
Projectiles for Fire-arms	Elisha Matteson	33,746
Projectiles, Guide for	J. Goodspeed and C. Crawley	32,830
Projectiles for Ordnance	S. C. Abbott	31,699
Projectiles for Ordnance	John Gault	32,689
Projectiles for Ordnance	Edward Lindner	32,949
Projectiles for Ordnance	Charles F. Brown	33,378
Projectiles for Ordnance	John Gault	33,738
Projectiles for Rifled Ordnance	B. B. Hotchkiss	32,293
Projectiles for Rifled Ordnance	J. A. Dahlgren	32,986
Projectiles for Rifled Ordnance	R. P. Parrott	33,099
Projectiles for Rifled Ordnance	R. P. Parrott	33,100
Projectiles for Rifled Ordnance	William Page	33,660
Projectiles for Rifled Ordnance	Isaac P. Tice	33,718
Projectiles for Rifled Ordnance	C. H. Sayre	34,031
Projectiles for Smooth-bored Ordnance	James A. Woodbury	33,863
Propeller	Edward S. Renwick	33,364
Propeller, Double-cone Marine	J. R. Baylis	33,574
Propellers, Marine	Maximilian Wappich	33,459
Propeller, Marine	Eugene Lacroix, jr	33,893
Propeller, Screw	Abram G. Tompkins	31,838
Propeller, Screw	David Bell	32,609
Propeller, Screw	Harrison Elliott	33,077
Propeller, Swimming	Jacob Kleiber	31,603
Propeller Shield	Jeremiah Carhart	32,751
Pulley, Clutch	John Shinn	33,321
Pulley Block	L. A. Beardsley	32,856
Pumps	Albert Bellingrath	31,206
Pumps	Thomas Hansbrow	31,314

Invention or Discovery.	Name of Patentee.	No.
Pumps	Dennis Hayes	31,804
Pumps	Alfred M. Perkins	31,904
Pumps	George W. Martin	32,030
Pumps	Harvey Locke	32,196
Pumps	John M. May	32,251
Pumps	Walton E. Watters	32,260
Pumps	H. G. Crowell	32,356
Pumps	W. W. Robinson	32,485
Pumps	Nathan Miller	32,577
Pumps	V. Weitz	32,592
Pumps	Nathan Barrett	32,607
Pumps	J. W. Redding	33,716
Pumps	T. S. Southard	32,724
Pumps	M. T. Greenleaf	32,831
Pumps	D. W. Lewis	32,881
Pumps	Albert Russell	33,008
Pumps	Benjamin Douglas	33,299
Pumps	Gilbert Van Camp	33,323
Pumps	Cornelius Bollinger	33,375
Pumps	T. J. Wadleigh	33,671
Pumps	John W. Lane	33,765
Pumps	F. J. Willett	33,914
Pumps	Elisha Fitzgerald	33,936
Pumps, Cattle	Peter Fraer	33,243
Pumps, Cattle	E. A. and S. Moore and D. Mooney	33,848
Pumps, Operating	James Armstrong	32,038
Pumps, Rotary	D. D. Hauly and J. J. Morris	31,597
Pumps, Rotary	Chester L. Johnson	32,029
Pumps, Rotary	John Jones and A. K. Rider	32,372
Pumps, Rotary	Monroe Stannard	33,126
Pumps, Rotary	B. F. Taber	33,550
Pumps, Rotary	Daniel S. Hamilton	33,643
Pumps, Rotary	Fred. Rochow	33,961
Pumps, Steam	Martin Wilcox	31,923
Pumps for Oil wells	Wm. H. Elliott	33,736
Punch and Shear	Timothy F. Taft	31,835
Punching Machine	Hiram Powers	31,476
Punching Machine	David Sprague	31,681
Punching and Shearing Machine	P. C. Perkins	31,674
Q.		
Quadrants, Horizons for	James Rahill	33,104
Quartz Crusher	L. F. A. Legouge	32,999
Quartz Crushers, Stamp-head for	Thomas Wise	31,570
Quartz Crushers, Stamp-head for	S. F. Hodge	33,993
Quartz Crushing or Pulverizing	J. C. Dickey	33,829
Quilting Frame	Asahel Osborn	31,821
Quilting Frame, Table and Clothes Dryer, combined.	Bernard Fagan	31,706
R.		
Radiators	J. B. Supplee	31,493
Rails, Joints for railroad	R. French	32,057
Rails, Railroad	William Watson	33,503
Rails, Railroad	L. and M. Day and A. Mercer	33,696
Rails for railroads, Splicing	B. A. Mason	32,074
Railroads	Alexander Hay	31,717
Railroads	Rowland Cromelieu	31,786
Railroads, City	W. C. Grimes	32,286
Railroads, City	E. F. Hyde	32,518
Railroads, Coal	Wm. Yondon and D. Thomas	32,732
Railroads, Frogs for	Joseph Wood	34,022
Railroads and Cars	Chandler McWayne	33,534

Invention or Discovery.	Name of Patentee.	No.
Railroad Crossings	H. F. Thiemeyer	33,670
Railroad Indicator	M. T. Ridout	32,000
Railroad Stations or Streets of Cities, Machine for indicating.	H. H. Gratz	31,237
Railroad Tickets, Machine for numbering	G. J. Hill	31,330
Railroad Tracks, Frogs for	Wm. Ebbitt	33,341
Railway	B. C. Smith	32,794
Railways, City	P. Andrew	32,606
Railways, Diminishing effect of collision on	J. R. Rowand	33,665
Railways, Permanent	Robert Watson	32,321
Railway Drawing-heads, Stop-motion for	B. O. Page	31,398
Railway and Pavement, Combined	B. C. Smith	31,131
Rain Gutters, Beading	Wm. H. Henderson	32,420
Rakes, Hand, for reaping machines	George Esterly	31,113
Rakes for Harvesters	T. S. Whitenack	31,345
Rakes for Harvesters	Chester Bullock	32,160
Rakes for Harvesters	James Pine	32,266
Rakes for Harvesters	W. S. Wilmot	32,493
Rakes for Harvesters	A. R. Reese, W. Gould, and N. Lake	33,663
Rakes for Harvesters	Walter A. Wood	33,761
Rakes for Harvesters, Automatic	Theodore F. Kums	33,418
Rakes for Harvesters, Automatic	Theodore F. Kums	33,419
Rakes for Harvesters, Automatic	Theodore F. Kums	33,420
Rakes, Hay	Wm. Deckman	32,054
Rakes, Hay	E. P. Barton and R. W. Towle	32,745
Rakes, Hay	C. R. Soule	32,795
Rakes, Hay	F. G. Wilson	32,935
Rakes, Hay, and Clover-Stripper, Combined	R. H. Blair and A. W. Beatty	33,512
Rakes, Horse	D. B. Woodward	31,507
Rakes, Horse	Jonah Crites	31,875
Rakes, Horse	Samuel Mowry	32,307
Rakes, Horse	J. C. Stoddard	33,023
Rakes, Horse	Edward Buchman	33,183
Rakes, Horse	Edward Smith and Sidney Cowles	33,267
Rakes for reapers	M. C. Brelsford	31,106
Rake-Heads	J. C. Stoddard	31,414
Raking and Cocking Hay, Machines for	L. R. Stone	31,568
Raking Attachments to Harvesters	G. E. Chenowith	31,954
Raking Attachment to Harvesters	A. B. Smith	32,317
Range, Cooking	Moses Pond	33,050
Ranges, Cooking, Water-back for	James Ingram	31,083
Ranges and Cooking Stoves	James Spear	31,489
Rasps and Files	Thomas Sheehan	31,331
Rattan, Cutting into Strands	T. J. Mayall	32,737
Rattan Machine	N. H. Richardson	32,651
Reapers and Mowers	D. Hitchings	32,189
Reaping Machines	Welcome Sprague	33,021
Reaping Machines	John Tustin	33,719
Reaping and Mowing Machines	Cyrenus Wheeler, jr.	31,686
Reaping and Mowing Machines	L. Erpelding	33,416
Reaping and Mowing Machines, Cutters for	Wm. S. McCormick	33,681
Reaping and Mowing Machines, Cutting Apparatus of.	Wm. S. McCormick	33,680
Reaping and Mowing Machines, Guards or Fingers for.	Salem Copeland	31,440
Reaping and Mowing Machines. (See, also, *Mowing Machines.*)		
Reels	Caroline H. Carnes	31,953
Reflectors for Lamps	W. D. Schmidlin and J. W. Driscoll.	32,722
Reflectors of a Solar Camera, Operating	D. A. Woodward	31,639
Refrigerator	B. J. Burnett	31,007
Refrigerator	John C. Schooley	31,039
Refrigerator	Thos. W. Chatfield	31,782
Refrigerator	Charles G. Page	31,901

Invention or Discovery.	Name of Patentee.	No.
Refrigerator	Elisha Dexter	32,987
Refrigerator	Thomas Gates	33,642
Refrigerator for Cooling the Condensing Water and Condensed Steam of Steam Engine.	W. A. Lighthall	31,547
Refrigerator and Water Cooler	A. Godley	31,968
Register, Fireplace	E. A. Tuttle	32,728
Register for Gas Metre	Jas. S. Elliott	33,300
Register, Hot air	J. H. Simonds	31,485
Register, Hot air	J. H. Simonds	31,748
Register, Hot air	S. B. Sexton	32,897
Register, Omnibus	E. S. Dawson and A. Weeks	31,788
Register for Omnibuses, &c	Felix Brunon	31,778
Registering Apparatus for Steam Engines	P. L Weimer	31,582
Regulators, Gas	Levi Abbott	33,873
Rein holder	Thos. L. Braynard	31,698
Retorts, Gas	S. H. & M. C. Walker	32,019
Retorts, Gas	A. K. Tupper	32,802
Retorts, Gas	A. K. Tupper	33,921
Retorts, Gas, Construction of	J. M. Gallacher	32,219
Retorts, Gas, Making fire clay	J. S. Heartt and S. English	33,623
Retorts, Manufacture of Prussiate of Potass	Jas. Clark	32,977
Retorts for the manufacture of gas from wood.	M. Levy	31,986
Rice, Coffee, and other Grains, Scouring, Cleaning, and Smutting.	L. D. Hawkins	33,064
Rice Cleaning Machine	A. H. Wright	33,276
Rifle Sights	W. J. Stillman	33,965
Rigging Clasp	Geo. W. Soule	32,210
Ring, Halter	Lucius C. Chase	32,180
Rings, Making Split	E. H. Perry	33,125
Rivet Machines, Bolt and	Abraham Reese	32,381
Road Scraper	O. W. Kellog	33,650
Roll Blotters	P. B. Sheldon	31,483
Rollers, Field	J. C. Pease	31,087
Rolling pin and docker for biscuit	Adam Exton	33,053
Roofing	S. R. Jones	32,835
Roofing, Composition for	C. C. Hoff	32,290
Roofing, Metallic	Wm. G. Reed	31,821
Roofing for Slate	J. S. Sammons	31,564
Roofing cloth, Making	D. S. Anderson	32,111
Rope, Machinery for Making	F. J. Miller	31,615
Rope, Machines for opening	Richard Mansley	32,524
Ropewalks	Horace Maxson	32,483
Row Lock	Wm. D. Bush	33,823
Rudder Case for Navigable Vessels	S. Foster	33,319
Rulers	Geo. Lane	32,571
Ruling Machine, Paper	John Dobbs	33,898
Ruling Machines, Paper	Alfred Hathaway	33,389
Running gear for four-wheeled Vehicles	D. C. Brown	33,566
S.		
Saccharine fluids, Evaporating	Christ. Cory	33,238
Saccharine juices, Apparatus for Evaporating	Wm. Chesterman	31,151
Saccharine juices, Apparatus for Evaporating	M. H. Mansfield	31,396
Saccharine juices, Clarifying	Riley Root	33,450
Saccharine juices, Evaporating	B. Coe and M. Goon	31,590
Saccharine juices, Pans for Evaporating and Clarifying.	Cornelius Jacobs	32,998
Saccharine juices. (See, also, *Cane juice and Sugar.*)		
Saddles	Jacob D. Woodruff	33,728
Saddles	R. N. Eagle	34,044
Saddle Leggings	Wm. B. Johns	33,996
Sad Irons	P. D. Van Hoesen	31,095
Sad Irons	Wm. McClure	32,304

Invention or Discovery.	Name of Patentee.	No.
Sad Irons. (See, also, *Flat Irons.*)		
Safes, Burglar-proof, Construction of	T. Selleck and W. H. Butler	33,455
Safety Belts	Noah Downing	33,579
Sails, Gaff for vessels'	Wm. H. Conway	33,295
Salt	N. W. Clark	31,372
Salt Digging	Geo. C. Robinson	31,827
Salt, Purification of	J. W. Barker and J. P. Haskin	33,424
Salt, Purifying brine for the manufacture of	J. M. Luther	33,725
Salt Kettles, Construction of	O. W. Seely	32,005
Sand, Machines for Washing	L. M. Speer	33,108
Sash, Window	E. P. Carter	31,074
Sashes, Window, Dovetailing	C. W. Strout	33,667
Sashes, Window, Hanging and operating	H. T. Stanard	31,412
Sashes, Window, Supporting and locking	Wm. Shaw	33,666
Sash and Blind fastener	W. E. & H. G. Arnold	33,423
Sash fastener	Wm. B. Barnard	31,221
Sash fastener	Jas. C. Butterworth	32,043
Sash fasteners	Samuel G. Rice	33,869
Sash fastener, Window	John H. Coburn	33,237
Sash holders	H. T. Stanard	32,657
Sash holder and fastener	Wm. N. Martin	33,488
Sash Supporter	B. G. Hildreth	33,647
Sash Supporters	Wm. Morehouse	33,750
Sash Supporter, Window	S. G. Morrison	33,596
Sausage Stuffer	Augustus Nittinger	31,030
Sausage Stuffer	Martin Riling	31,403
Saws	Nathan W. Spaulding	33,270
Saws, Adjusting the rates of muley	W. J. Gaskill	32,941
Saws, Band, Hanging	W. H. Sullenberger	31,763
Saws, Hanging and Securing reciprocating mill.	J. H. Totman	31,498
Saws, Planing	W. S. Winsor	33,673
Saws, Scroll	G. L. Baar	33,732
Saws, Securing Circular to Arbors	John Andrews	31,523
Saws, Securing Circular to Arbors	John Andrews	32,503
Saws, Wood	Abijah Fessenden	31,231
Saws, Wood, device for Straining	Jas. Haynes	31,054
Saw-dust, Removing, as it is formed	O. H. Burdett	31,779
Saw gummers	A. H. Wellington	33,913
Saw gummers	N. W. Spaulding	34,042
Saw horse, Wood	Geo. Ives	31,605
Saw plates, Hardening	James Dodge	32,102
Saw Set	Amos Call	32,179
Saw Set	D. P. Foster	33,063
Saw Set	Ruel Rawson	33,492
Sawing Curvelinear	Enoch Conger	32,978
Sawing curved pieces, Machine for	Enoch Conger	31,763
Sawing fire wood, Machines for	S. A. Clemens	33,571
Sawing Machine	W. T. Mills	32,839
Sawing Machine, Circular	W. H. Auld	31,202
Sawing Machine, Cross-cut	Peter Fischer	31,535
Sawing Machines, Cross-cut	Daniel Foreman	31,537
Sawing Machines, Cross-cut	S. S. Dice	31,877
Sawing Machines, Feeding and gigging back movement in.	Jesse Gilman	32,419
Scales	S. S. Hitchcock	31,243
Scales, Platform	Aug. B. Davis	33,297
Scale and weighing Apparatus	A. H. Platt and W. S. Rosecrans	33,403
Scale Beams	A. B. Davis	31,534
Scissors	John Reist	31,032
Scissors	A. Haydon Knapp	31,849
Screws	Leonard Marsh	33,487
Screws and tacks, head for	G. R. Wilmot	32,020
Screws for Winnowing Machines	W. M. Watson	33,618
Screw Blanks, Feeding	D. M. Robertson	31,405

Invention or Discovery.	Name of Patentee.	No.
Seaming, Heads for double	S. H. Drennon	33,463
Seat, Cane for Chairs	J. B. Sawyer	32,535
Seat and Cane combined	C. H. Dascomb	33,073
Seat, Car	Thomas Rainey	32,892
Seats, Carriage, self-adjusting	John C. Kimball	31,023
Seat for railroad Cars and Schools	W. H. Joeckel	33,887
Seat, School	Robert Paton	33,101
Seat for Schools, etc	Wm. H. Joeckel	33,994
Seed, Clover, Hulling and Cleaning	D. S. Wagener	31,420
Seeds, Clover, Machine for Separating	H. Hunsiker	31,389
Seed, Machines for Cleaning and hulling clover	Jacob Kuhn	32,630
Seed, Planters, Shoes for	A. W. Brinkerhoff	32,819
Seed-Sowing Machines	Alonzo Webster	33,013
Seeding Machine	C. Eggleston	31,014
Seeding Machines	David Pardee	31,086
Seeding Machines	W. P. Penn	31,088
Seeding Machines	W. B. Quarton	31,089
Seeding Machines	G. W. Lee and A. R. Reese	31,123
Seeding Machines	T. B. Jones	31,392
Seeding Machines	C. W. Fossler	31,426
Seeding Machines	J. M. Bacon	31,433
Seeding Machines	Nelson Ford	31,536
Seeding Machines	Ira A. Stafford	31,752
Seeding Machines	C. W. Cahoon	31,952
Seeding Machines	F. M. Bacon and J. Fowler	32,040
Seeding Machines	T. S. Mills	32,140
Seeding Machines	George Harlan	32,227
Seeding Machines	H. K. Stover	32,318
Seeding Machines	M. Grout and C. Lawton	32,476
Seeding Machines	Gilbert Jessup	32,627
Seeding Machines	A. C. Stiles	32,812
Seeding Machines	M. L. Gorham	32,992
Seeding Machines	H. N. Dalton	33,072
Seeding Machines	Earll Bellinger	33,233
Seeding Machines	T. R. Richmond	33,664
Seeding Machines	G. W. Van Brunt	33,720
Seeding Machines	J. Early and J. B. Parvin	33,881
Sewers, Inlet	William H. Short	32,008
Sewers, Inlets	Strickland Kneass	32,401
Sewers, Street	John Myers and George Elbreg	33,538
Sewing Machines	Thomas Earle	31,155
Sewing Machines	Charles Irwin	31,171
Sewing Machines	F. D. Ballou	31,203
Sewing Machines	J. T. Bruen	31,208
Sewing Machines	A. F. Johnson and J. E. Bartlett	31,209
Sewing Machines	S. M. Langdon	31,211
Sewing Machines	Quartus Rice	31,214
Sewing Machines	J. C. Smith	31,263
Sewing Machines	Francis Nivelle	31,325
Sewing Machines	J. M. Smith	31,334
Sewing Machines	A. H. Hook	31,351
Sewing Machines	Daniel Barnum	31,366
Sewing Machines	L. H. Smith	31,411
Sewing Machines	C. W. Williams	31,423
Sewing Machines	Quartus Rice	31,429
Sewing Machines	Louis Ballman	31,434
Sewing Machines	P. D. Cummings	31,572
Sewing Machines	J. W. Howlett	31,601
Sewing Machines	J. Little Hyde	31,604
Sewing Machines	C. B. Richardson	31,625
Sewing Machines	Israel M. Rose	31,628
Sewing Machines	John E. Earle	31,642
Sewing Machines	L. W. Lathrop and L. B. Justice	31,644
Sewing Machines	John Moulson	31,646
Sewing Machines	George Juengst	31,691

Invention or Discovery.	Name of Patentee.	No.
Sewing Machines	W. C. Hicks	31,805
Sewing Machines	Noble G. Ross	31,829
Sewing Machines	Amos H. Boyd	31,864
Sewing Machines	George H. Mallory	31,897
Sewing Machines	Henry L. Shaw	32,007
Sewing Machines	Theodore Burr	32,023
Sewing Machines	W. C. Hicks	32,064
Sewing Machines	Samuel Comfort, jr	32,239
Sewing Machines	William Jones and P. Haughian	32,297
Sewing Machines	J. P. Sherwood	32,315
Sewing Machines	M. G. Wilder	32,323
Sewing Machines	L. H. Smith	32,385
Sewing Machines	Lewis Cooper	32,415
Sewing Machines	J. W. Stokes	32,456
Sewing Machines	W. M. Fuller	32,496
Sewing Machines	Edward Howell	32,517
Sewing Machines	B. F. Norton	32,782
Sewing Machines	Charles Raymond	32,785
Sewing Machines	Charles Raymond	32,925
Sewing Machines	G. F. Case	33,029
Sewing Machines	C. Hodgkins	33,085
Sewing Machines	Louis Bollman	33,414
Sewing Machines	Louis Bollman	33,415
Sewing Machines	F. E. Marble	33,439
Sewing Machines	Charles G. Mann	33,556
Sewing Machines	William Weitling	33,619
Sewing Machines	Reuben W. Drew	33,677
Sewing Machines	William O. Grover	33,778
Sewing Machines	William O. Grover	33,940
Sewing Machines, binder guides for	J. D. Alvord	32,037
Sewing Machines, Cording guides for	S. D. Tucker	33,817
Sewing Machines, etc., Crank for driving	Turner Williams	33,727
Sewing Machines, Felling guides for	H. L. Paddock	32,710
Sewing Machines, Guides for	W. L. Fish	31,379
Sewing Machines, Hemming guides for	C. Marsh	31,645
Sewing Machines, Loop catches for	C. R. Folger	33,341
Sewing Machine needles	Charles M. Willcox	31,757
Sewing Machines, Needle, setter and threader for.	J. W. Hardie	32,624
Sewing Machines, Treadle attachments for	Warren Glover	31,236
Sewing, Scroll Machines	L. D. Barrand	32,507
Sewing Pins	James McNamee	33,169
Sewing work holders	H. G. Scofield	31,481
Shades, Window	F. A. Perry	32,529
Shade or Curtain roller	Langdon Sawyer	32,034
Shade fixtures	F. W. Stafford	31,336
Shade fixtures	John Gibbs	32,765
Shafts, Attaching breeching to	G. F. Holland	34,036
Shafts, Carriage, Attaching	Theodore D. Davis	33,827
Shafting, Hangers for	M. H. Mansfield	32,301
Shears, Pruning	Joseph Evans	32,827
Shears, Tinsmith's	H. S. Platt	33,227
Shear for the manufacture of axes	Levi Dodge	31,927
Shear and punch	Timothy F. Taft	31,835
Shearing and punching Machine	P. C. Perkins	31,674
Sheathing, Metallic	Andrew Whytock	33,620
Sheepskins, Shearing	William D. Cutler	32,184
Shells, Applying fuses to	R. P. Parrott	33,662
Shells, Bomb	James McIntire	32,702
Shells, Fuse wood	S. Sawyer	34,040
Shells for Ordnance	Anthony Pfund	33,541
Shells, Percussion	G. W. Gardner	33,835
Shellers, Corn	Jacob B. Rand and W. A. W. Long	33,052
Shingles, Sawing, from the block	A. F. French	31,232
Shingle bolts, Sawing	James C. Brown	33,822

Invention or Discovery.	Name of Patentee.	No.
Shingle Machines	P. H. Woolsey	31,277
Shingle Machines	G. Zehech and J. Kiefer	31,937
Shingle Machines	A. H. Clark	32,467
Shingle Machines, Tilting device in	D. M. Boyd	32,616
Ships, Attaching the shroud of	John Taber	31,067
Ships, Docking	J. W. Nystrom	31,125
Ship, Life preserving	Theodore Burr	31,424
Ships, Life or safety	Mathew Gill	32,623
Ships, Safety	Ethan S. Willson	31,687
Ship Building	Henry Randall	33,559
Ship Building	Peter Pardee	33,598
Ships rigging, Setting up	B. Ricketson	31,908
Ship scraper	John C. Gibbs	33,138
Shoes, Gaiter, Fastening for	Richard Solis	31,750
Shoes, India-rubber	Christ. Meyer	31,730
Shoes and Boots, Gum	Louis Banhoefer	31,146
Shoes and boot heels, Polishing	S. W. Chamberlain	32,859
Shoes and Boots. (See, also, *Boots* and *Shoes*.)		
Shoes for seed planters	A. W. Brinkerhoff	32,819
Shoemaker's Measures	Marcus Lane	33,307
Shoe pegging Machine	Charles Keniston	33,151
Shop bin or substitute for drawers	S. B. Schultz	31,633
Shot, Canister, for ordnance	A. M. Sawyer	33,754
Shot, Mandrel for loading case	S. Sawyer	34,041
Shot punches	C. Johnston	32,067
Shoulder straps, Fastenings for	B. G. Barney	33,925
Shoulder straps, Officer's	J. S. Smith	32,588
Shovels and Spades	John Lippincott	32,701
Shutters, Rolling iron	G. F. Litz	31,250
Shutters, Rolling iron	J. S. Cochran	31,300
Shutters and blind bolt	Augustus Reeve	33,266
Shutter and door fastener	William Patten	32,712
Shutter fastener	William M. Griscom	32,221
Sieve	A. E. and J. B. Blood	31,149
Sieves, Gas slotting	R. G. Hunt	32,871
Sights, Back, Adjustable, for fire-arms	C. Sharp	32,899
Sights, Rifle	W. J. Stillman	33,965
Signalizing, Improved system of	A. J. Myer	31,256
Signs	William B. Little	32,195
Silk, Machine for twisting	J. E. De Maniguet	32,756
Silk thread, Sorting	J. E. Atwood and Lewis Leigh	31,510
Silk and other threads, Machine for sorting	Goodrich Holland	31,316
Silk and other thread, Sorting	Goodrich Holland	31,458
Silver ores, Treating	John Hastings and L. P. Gautier.	31,598
Sink	John Walch	33,115
Sirups, Decolorizing	H. N. Fryatt	32,622
Skates	Alfred Hathaway	31,017
Skates	H. W. Warner	31,043
Skates	Hiram Clark	31,699
Skates	A. J. Gibson	31,797
Skates	J. A. De Brame	32,024
Skates	Abram Basford, jr., and W. B. Carpenter.	32,173
Skates	R. A. Goodyear and L. A. Sprague	32,360
Skates	N. C. Sanford	32,435
Skates	J. A. De Brame	32,495
Skates	D. H. Shirley	32,656
Skates	T. A. Jebb	32,696
Skates	Edward Behr	32,734
Skates	N. W. Camp	32,750
Skates	G. A. Corser and A. O. Bundy	32,821
Skates	C. E. Hall	32,833
Skates	G. G. Griswold	32,867
Skates	G. W Dyer	32,938
Skates	Joseph M. Hoadley	32,944

Invention or Discovery.	Name of Patentee.	No.
Skates	Stephen R. Gaing	33,939
Skates, Roller	Henry Rennie	31,994
Skates, Roller	Albert Anderson	33,689
Skate fastenings	J. B. Gibbs	31,280
Skate fastenings	P. J. Clark	31,348
Skate fastenings	George S. Curtis	32,162
Skins, Treating without removing the hair	David Mumma	34,005
Skins and leather, Coloring	Jehu Brainerd	33,331
Skirts	Thomas B. De Forest	31,876
Skirts, Hoop	S. R. Wilmot	32,547
Skirts, Skeleton, Manufacture of	Robert J. Mann	31,932
Skirts, Spring, Tape for	T. D. Hoxsey	31,388
Skirt supporters	J. F. Brown	33,971
Skirt supporters	Sarah H. Balwin	32,506
Skirt wire	W. E. Frost	33,764
Slate, Roofing with	J. S. Sammons	32,383
Slate frames	Henry W. Harper	33,144
Slats and Blinds	John Wyberd	32,920
Sleds, Metallic	Robert J. Mann	33,202
Sleeve-fastener	Dutee Wilcox	31,421
Smokestacks, Locomotive	J. L. Vanclain	33,114
Smoking tubes	R. Boeklen and W. Staehlen	31,863
Smut, Grain, Composition to prevent	A. N. Overton	33,400
Soap	Wm. L. Dawson	31,959
Soap	Henry Warren	33,221
Soap, Castor oil, Composition of	T. D. Mathews	31,025
Soap, Composition	William Dennis	33,339
Soap, Silicated	George E. Vanderburgh	31,648
Soap into balls, Apparatus to form	L. Smith and R. French	33,055
Soda, Caustic, Manufacture of	Henry Lowe	32,523
Soda apparatus combined with an ice-cutter	G. D. Dows	33,880
Soda Fountain	A. D. Puffer	33,796
Sodawater Apparatus	Francis Nichols	32,709
Soda used in the manufacture of paper. Recovering,	Henry Lowe	33,953
Soil, Machines for paving and pulverizing	R. J. Gatling	32,600
Soles, Flexible	Edward G. Kinsley	33,436
Soles, Galvanic	Samuel Nowlan	32,603
Sounding, Deep-sea, Specimen cup for	W. P. Trowbridge	32,095
Sowers and Harrows, Combined	James Brewer	33,377
Sowing Guano	S. B. Black	32,406
Spades and Shovels	John Lippincott	32,701
Spading machines	Isaac C. Crane	32,981
Spading machine, Rotary	Donald Mann	32,137
Spermatorrhoea, Cure of	H. H. Reynolds	32,849
Spermatorrhoea Instrument	H. H. Reynolds	33,162
Spikes, Drawing bolts and	H. E. Fowle	33,218
Spike Machines	James H. Sweet	32,213
Spike Machines	Samuel Cameron	32,466
Spinal curvature, Reducing	C. F. Taylor	32,013
Spinal curvature, Reducing	C. F. Taylor	32,014
Spinal curvature, Reducing	C. F. Taylor	32,015
Spinners, Driving-power for	M. G. Hubbard	33,305
Spinning frames	F. S. Stoddard	32,166
Spinning machines	James Higgins and T. S. Whitworth	31,857
Spinning machinery	George Goulding	32,059
Spinning machinery	John A. Patridge	32,923
Spinning machinery, Flyers for	J. F. Maynard	33,356
Spinning machinery, Lubricators for	C. Hardy	31,972
Spinning machinery, Stop-motion in	J. P. Hillard	33,037
Spokes in the felloes of wheels	D. A. Johnson	32,946
Spoke machine	Albert R. Davis	33,074
Spoke machines, Feeding mechanism for	Eliakim Briggs	31,006
Spokeshave	Martin Coltin	32,617
Spokeshaves	John Jennings, jr	33,589

Invention or Discovery.	Name of Patentee.	No.
Spools, Turning, Machines for	J. S. Parker	32,528
Spoons, Iron, Making	Florian Crossjean	33,247
Spoons, Manufacture of	G. J. Mix	31,555
Spoons and Forks, Means of attaching to knives.	Nathan Ames	33,730
Springs	Albert Bridges	33,277
Springs, Bed	W. C. Cook	32,352
Springs, Car	G. L. Turner	32,591
Springs, Car	Henry E. Roeder	33,366
Springs, Carriage	P. G. Gardiner	31,881
Springs, Carriage	A. R. Miller	33,789
Springs, Carriage, Arrangement of	E. Roughton	31,560
Springs, Carriage, Arrangement of	Thomas Phillips	31,823
Springs, Cushion	James W. Evans	31,793
Springs, Door	John O. Blythe	31,862
Spring, Gate or door	Joseph W. Briggs	33,332
Springs in Governors, Equalizing the action of	H. W. Evans	33,123
Springs, Making upholstery	C. A. Young	32,395
Springs, Metallic	G. W. McMinn	31,517
Springs, Pneumatic	J. W. Hoagland	32,848
Springs for railroad cars	T. F. Allen	31,102
Springs, Railroad car	James W. Evans	31,792
Springs from rubber and steel, Manufacture of	S. Moulton	33,597
Spring Heads, Carriage, Heading	John Evans	33,580
Stalls for animals	Olney Bolster	33,473
Staples and hooks, Bending	Simeon Brooks	33,733
Staves, Machines for chiming and jointing	R. D. Bowker and Wm. P. Bensell	31,368
Staves, Making wooden vessels of	W. H. Smoote	31,487
Stave-jointer	G. G. Gabrion and N. B. Whitney	31,164
Stave machine	Edward and Britain Holmes	31,169
Stave machines	Edward and Britain Holmes	31,459
Stave machines	Minard Snell	31,831
Stave machines	James Nevison	31,934
Stave machines	William Sisson	33,370
Steam and air, Combining and utilizing	R. E. Rogers and J. Black	32,149
Steamboat Staging	A. John Bell	31,147
Steam Boilers. (See *Boilers, Steam.*)		
Steel, Converting Iron into by cementation	E. R. Weston	32,546
Steeples, masts, &c., Iron	E. S. Boynton	31,777
Steering Apparatus	John Jefferson and Jas. McCausland.	32,296
Steering Apparatus	Richard F. Joynes	32,425
Steering Apparatus	G. W. Robinson	32,719
Steering Apparatus	F. A. Moreley	32,780
Steering Apparatus	W. P. Hunt and J. D. Spaulding	33,465
Steering Apparatus	George R. Moore	33,683
Steering Apparatus for navigable vessels	R. & T. Winans	31,845
Steering vessels by water	John W. Foster	33,832
Stereoscopes	S. D. Goodale	31,310
Stereoscopic Pictures of moving objects, Exhibiting.	Coleman Sellers	31,357
Stills, Casing of	Joshua Merrill	32,951
Stills, Construction of	Joshua Merrill	32,706
Stills, Securing bottom to	J. G. Collins	32,557
Stills, Setting	G. T. Sawyer, W. Howland, jr., and T. C. Hatch.	33,905
Stills and Still bottoms, Constructing	Joshua Merrill	33,955
Stilts	Josee Johnson	31,210
Stilts	G. N. Cummings	31,787
Stirrups	A. A. Livingston	33,354
Stirrups	Charles Ray	33,753
Stirrups and their covers	R. N. Eagle	33,930
Stone, Dressing	Isaac Freligh	33,191
Stone-dressing Machines	Ezra H. Lewis	33,253
Stones, &c., Machine for breaking	James Reidy	33,493

Invevtion or Discovery.	Name of Patentee.	No.
Stones, Machines for cutting	M. M. Parrish	32,711
Stone, Machines for polishing	E. H. Lewis	32,776
Stools, Camp	Nathaniel Johnson	32,698
Stools, Camp	Abel Ashald	33,286
Stoves	S. F. Savage	31,480
Stoves	S. T. Harvey	31,716
Stoves	M. B. Stafford	31,751
Stoves	John Magee	32,164
Stoves	B. C. Bibb and Henry Auger	32,176
Stoves	J. G. Treadwell and Wm. Hailes	32,257
Stoves	J. C. Henderson	32,691
Stoves	Newman Silverthorn	32,900
Stoves	John Pearson, jr	33,048
Stoves	T. N. Fisher and J. H. Zinn	33,079
Stoves	Wm. F. Beecher	33,127
Stoves	R. D. Granger	33,345
Stoves	George Hamel	33,525
Stoves, Camp	George A. Higgins	33,705
Stoves, Coal	Benjamin T. Roney	33,367
Stoves, Cook	Edward Kirk, jr	33,890
Stoves, Cook, and Camp chest combined	H. W. Ball	33,630
Stoves, Cooking	J. G. Treadwell	31,270
Stoves, Cooking	Hosea H. Huntley	31,930
Stoves, Cooking	Wm. Resor	32,081
Stoves, Cooking	A. C. Barstow	32,228
Stoves, Cooking	C. P. Geissenhainer	32,764
Stoves, Cooking	Benjamin F. Gold	32,829
Stoves, Cooking	F. C. Adams and Joseph Peckover	32,953
Stoves, Cooking, Combination of, and air-heating furnace.	P. J. Ackerman	31,144
Stoves, Cooking, and Ranges	James Spear	31,489
Stoves, Fireboard	James Spear	32,928
Stoves, Fire-pot for Coal	Dennis G. Littlefield	32,635
Stove Covers, Lifter for	B. R. Hathaway	31,541
Stove Cover Lifters	R. W. Huston	33,784
Stove Cover, Lifter and Poker	G. J. Huling and A. Taplin	33,587
Stove Griddle, Moulding	M. C. Burliegh	32,465
Stove lining	G. B. Snider and James Gorton	31,266
Strainer for Coffee and Teapots	Wellington Case	32,969
Streets, Machines for Sweeping	W. H. Hope	31,762
Streets of cities, Machines for indicating	H. H. Gratz	31,236
Street cleaning machines	Wm. H. Hope	32,234
Street sweeping machines	L. Conroy	32,051
Street sweeping machine	L. Conroy	33,572
Street washer	Joshua Regester	32,893
Stud fastening, Button and	V. G. Arnold	32,816
Stuffing boxes	R. & T. Winans	31,846
Stump extractor	T. G. Davis and J. Punches	31,228
Stump extractor, &c	James B. Lyons	31,812
Stump extractor	Fred. Kettler	32,193
Stump extractor	D. A. Danforth and W. A. Wilkinson.	32,684
Stump extractor	F. L. Howe	33,320
Stump extractor	C. J. Glenn, C. Ball, and W. S. Hackett.	33,883
Stump machine	D. W. Henderson	31,386
Stump machine	John Warner and J. H. Vosburgh.	33,116
Subsoil, Breaking	L. J. Chateau	33,877
Sugar, Apparatus for evaporating	A. H. Miller	33,593
Sugar, Breaking	Joseph Forrest	32,282
Sugar, Crude, Dissolving	Wm. Moller	33,261
Sugar, Crude, Manufacture of	G. Finken	33,524
Sugar, Manufacturing Cube	G. Finken	33,078
Sugar, Maple, Refining	Orson P. Beardsley	33,289
Sugar, Refining and Crystallizing	H. N. Fryatt	33,987

Invention or Discovery.	Name of Patentee.	No.
Sugar, Refining and Purifying	J. Wright	33,674
Sugar Machine	Charles Teckelnenburg	33,111
Sugar Moulds, Drip Pot for	J. W. Jarboe and A. Mackey	32,873
Sugar Solution, Evaporating	W. B. Goodrich	31,662
Sugar. (See, also, *Cane Juice and Saccharine Juice.*)		
Sulphurous Gas, Treating Cane Juice with	G. A. Huwald	33,086
Surgical Splints	David Ahl	33,476
Swifts	M. R. Griswold and O. B. Bailey	32,832
Swings	Henry Davies	33,576
Switches for horse railroads, Self-acting	J. A. Heyle	33,434
Switches, Railroad	J. M. Brahn	31,439
Switches, Railroad	O. W. Marshall	32,573
Switches, Railroad	H. F. Thiemeyer	33,669
Switches, Railroad	Samuel S. Hamill	33,701
Syringes, Enema	G. W. Hubbard	31,318
Syringes, Enema	F. B. Richardson	31,626
Syringes, Enema	Elbridge Stevens	31,634
Syringes, Enema	Morris Mattson	33,747
Syringes, Vaginal	Henry K. W. Bradman	33,234
T.		
Table	P. P. Warriner	31,685
Table, Extension	T. Q. Hall	31,312
Table, Extension	S. M. Rounds	32,894
Table, Folding	Josee Johnson	31,353
Table, Post Office, Distributing	C. H. Bradley	32,748
Table, Self-waiting	James A. Strong	33,804
Tables, Tivoli	Ch. Troelick	32,811
Table and Camp Chest, Combined	Wesley Chase	33,570
Tablets	John Wenisch and R. B. Berky	32,097
Tablet, Port folio and writing	G. C. Hathaway	33,991
Tackle, Spring, for the sheets of fore-and-aft rigged vessels.	Wm. Woodbury	31,759
Tacks, Head for Screws and	G. R. Wilmot	32,020
Tallow and Lard, Rendering	James Turner	33,219
Tallow and Lard, Rendering	James Turner	33,969
Tanning	Alex. R. Wyeth	31,640
Tanning	Jehu Brainerd	33,182
Tanning	Geo. W. Hatch	33,388
Tanning, Apparatus for	S. P. Patterson	33,448
Tanning, Compositions for	P. W. Thomas	33,314
Tanning, Handling hides in	D. A. Haviland and A. S. Phillips	33,645
Tanning, Process of	John M. Muller	33,790
Tanning Composition	Wm. Beach	33,564
Tanning machines	James Bain and Samuel C. Brown	32,041
Tan vats, Stirring	Wm. P. Martin	33,203
Tape trimmings, Machine for making	J. E. Earle	32,663
Tar, Utilization of Coal	Richard S. Child	32,753
Tatting frames	David F. Randall	31,624
Tea Kettles	A. Ransom and R. D. Granger	31,767
Tea and Coffee pots	E. A. Kelsey	32,876
Tea and Coffee pots, Strainer for	Wellington Case	32,969
Tea pots, Strainer for Coffee and	Nathan Ames	33,316
Teasels, Machines for trimming	George M. Rhodes	32,649
Teeth, Artificial	A. M. & J. L. Asay	31,770
Teeth, Artificial, Setting	David Steinberg	33,716
Teeth, Card, of carding cylinders, grinding the	Charles Hardy	31,315
Teeth, Cultivator	Wm. Morrisson	32,077
Teeth, Saw	J. S. Brown	31,073
Teeth, Saw	L. B. Southworth	32,796
Teeth, Saw, Cutting	J. D. Custer	32,662
Teeth, Saw, Cutting	Charles Kaiser	33,041
Telegraphs	G. M. Phelps	32,452

Invention or Discovery.	Name of Patentee.	No.
Telegraphs	Alex. Bain	32,854
Telegraph, Electro-magnetic	A. E. Parks	31,902
Telegraphs, Electro-magnetic	J. E. Smith	33,269
Telegraph Connectors, Jointing	John N. Power	31,622
Telegraph Instrument	Edmund F. Barnes	33,373
Telegraph Wires, Suspending	Henry B. Goodyear	33,700
Telegraphic Apparatus	C. H. Burd	32,510
Telegraphic Instruments	Samuel Brown, jr	33,027
Telegraphing	Nathaniel Parks	33,098
Temples	Chas. Hoffman and Wm. Graichen	31,974
Temples	Benj. & S. B. Levalley	33,000
Tents	E. C. Williams	32,715
Tents	S. M. Davis	32,861
Tents	Thomas Boyd	33,130
Tents	A. L. Haskell	33,346
Tents	R. B. Pallan	33,959
Tents	Wm. Rankin	34,011
Tents, Knapsack and Overcoat	Joseph Short	33,468
Tents, Supporting	George B. Adams	33,923
Tents, Ventilating	Thomas Boyd	33,068
Tents, Wooden, Portable	R. K. Hawley & W. W. Maughlin	33,781
Tent and cloak, Convertible	Wm. B. Johns	33,528
Tent and overcoat, Convertible	H. J. Phillips	33,752
Tent fixture	J. H. Landell	32,481
Textile and other fabrics, rendering air and water-tight.	A. C. Teubner	31,195
Thermometers	M. A. Finnell	33,935
Thills, Attaching to Carriage Axles	C. W. Gage	32,864
Thills for Vehicles	J. W. D. F. Moon	32,779
Thimbles	Benj. W. Hood	31,975
Thimble boxes, Casting	James G. Holt	32,264
Thimble Skeins, Patterns for	E. F. Huribut	32,399
Thresher and cleaner of grain	Wm. Pierpont	33,049
Threshing and cleaning clover	William Rowe	32,209
Threshing cylinder, Corn sheller, and grinding mill.	C. Bailey	32,112
Threshing Machines	S. E. Oviatt	32,309
Threshing Machines	W. P. Penn	32,582
Threshing Machines	P. H. Standish	33,109
Threshing Machines	Benj. Hall, jr., and A. Ralston	33,148
Threshing Machines	C. H. Shank and S. Stephenson	33,714
Threshing Machines	Benj. Hoyle	33,886
Threshing Machines, Fan attachment to	W. C. Reutgen & P. H. Humes	31,825
Threshing Machines, Gearing for	Lewis Miller	31,764
Threshing Machines, Straw-carrier for	G. Weiland	31,855
Threshing Machines, Straw-carriers for	Levi Bronson	33,061
Threshing Machines, Straw-carriers of	M. P. Morgan	33,445
Threshing Machines, Straw-carriers and grain separators.	Wm. Pierpont	34,010
Threshing and Separating grain	Cyrus Roberts	32,085
Threshing and Separating grain	Hiram Aldridge	32,502
Threshing and Separating Machines	Jacob Seebold	32,896
Thread dressing Machines	Gardiner Hall, jr	33,141
Thread, Machine for winding	E. M. Stevens	31,358
Thread, Machine for sorting	J. B. Waring	33,117
Thread, Winding	J. A. Bradshaw	32,445
Thread winding guides	T. B. De Forest	31,960
Tickets, Railroad, Machine for numbering	G. J. Hill	31,350
Tie, Neck	P. F. Smith	31,265
Ties, Iron, for Cotton bales	J. J. McComb	31,252
Ties, Iron, for Cotton bales	G. N. Beard	32,818
Tiles, Drain	Adam Newkumet	32,079
Tiles, Making brick	D. G. Oldfield	31,126
Tiles, Laying, and ditching machines	B. P. Foster and Wm. H. Chaffee	33,506
Tile machines	G. S. Tiffany and H. C. Ingraham	31,581

Invention or Discovery.	Name of Patentee.	No.
Time detector, Watchman's	John Burke	31,032
Time tell-tale	Edward Roberts	31,853
Time tell-tale	Henry Manle	32,303
Tin foils, manufacture of	J. J. Crook	32,355
Tires for locomotive wheels	William W. Snow	32,154
Tire, Railway, Machine for rolling	S. Jaqua	31,244
Tires, Shrinking	Christian Weitman	33,767
Tire, Upsetting	C. W. Wilkins	31,422
Tire, Upsetting	Benjamin Upton	32,390
Tire, Upsetting, Machine for	W. C. Salmon and G. F. Bliss	31,478
Tire-bending Machine	Joseph Klepper	32,948
Tire-heater	Alfred Ingalls	31,170
Tobacco, Apparatus for curing	B. C. Bilb, G. F. Needham, and G. W. Dorsey.	32,610
Tobacco, Flues for drying	W. B. Hix	31,081
Tomatoes, Making spirituous liquors from	William Schilling	31,058
Tombstones	R. P. Henry and G. W. Fox	33,782
Tools, Polishing	T. J. Mayall	31,080
Tool-handles	L. C. Rodier	31,189
Tooth for Cultivators, Spring	Henry Francisco	33,641
Tops, Children's flying	Henry Benton	32,272
Traces to Carriages, Attaching	William L. Hubbell	33,742
Traces to Whiffletrees, Attaching	L. Humiston	31,718
Trace-fastenings	S. W. Cox and J. H. Trowbridge.	33,519
Traps, Animal	W. T. Williams	31,504
Traps, Animal	H. D. Dunning and P. G. Walker.	31,651
Traps, Animal	John Quigley	32,434
Traps, Animal	Decatur Pittman	32,486
Traps, Animal	Reuben Chadwick	32,961
Traps, Combined burglar-alarm and animal	George Smith	32,539
Traps, Moth, for beehives	Rufus Haven	33,347
Traps, Moth, for beehives	William J. Hazen	33,704
Traps, Steam	Phineas D. Wesson	31,842
Traps, Steam	John Gunn	32,132
Traps, Steam	G. B. Wiggins and J. Hoard	32,492
Traps, Steam	A. L. Bayley	32,817
Trees, Extracting filamentous matter from	A. C. Vautier	33,551
Trees, Machine for felling	J. S. Foster	32,688
Trees, Vines, &c., Composition to prevent decay.	B. Best	31,587
Troughs, Eave	N. J. Eldred	33,076
Troughs, Wooden eave and piping	S. T. Field	31,449
Troughs, Wooden, Machine for cutting	Arcalous Wyckoff	31,509
Trowels, Masons'	Franklin Bisbee	31,436
Trowsers, Cutting	Thomas Clancy	33,576
Trucks, Hand	William C. Reutgen	31,741
Trucks, Railroad Car	Walter Youmans	33,167
Trunks, Alarm	C. W. Taylor	31,754
Trunks, Army	Benjamin Andrews	33,628
Trunks, Army	J. W. Hardie	33,644
Trunks, Camp	L. H. Miller	33,398
Trunk and bedstead combined	F. Boisard and S. Conrath	33,128
Trunk convertible into a bedstead	W. B. Strong	32,536
Trusses	E. Gerdon and Jacob Damm	32,246
Trusses for bridges	John P. Avery	33,629
Truss frames of bridges, Adjustment of	J. W. Murphy	32,199
Truss pads	John O. Bryan	33,980
Tub and pail machine	R. H. Peck and E. M. Gifford	32,644
Tubes of Artesian wells	H. W. Spooner	31,567
Tubes, Smoking	W. A. Ludden	31,468
Tubes, Trachea	B. Segnitz	32,789
Tuning-pin for Musical Instruments	Samuel Clark	31,589
Tunnel, Drying	F. H. Smith	31,566
Turning oval frames	Isaac P. Tice	31,837
Turning tapering forms	W. Wadleigh and N. F. Morrill	32,931

Invention or Discovery.	Name of Patentee.	No.
Turning ovals	A. H. Brown	33,334
Turpentine and rosin, Manufacture of	Henry Napier	31,991
Type, Cutting	J. J. C. Smith	31,333
Type-cases	Thomas N. Rooker	31,037
Type-galleys, Locking	Stephen W. Brown	31,688
U.		
Umbrellas and Parasols	T. G. Bancroft	33,472
Underground receptacle for waste matter	Charles Herdtfelder	31,514
Uterine Supporters, Self-adjusting	Dryden Smith	33,609
V.		
Valves	Nathan Cope and Wm. Hodgson.	31,701
Valves	Thomas Evans	31,794
Valves	Daniel Menthorn	32,430
Valves	Leopold Thomas	32,658
Valves, Cut-off, for Steam Engines	John Broughton	33,821
Valve, Governor, for Steam Engines	A. White	32,934
Valves for hose-pipe	John M. de Bolle	32,444
Valves, Pistons and piston, of Steam Engines	T. S. Davis	31,303
Valves for pumps	C. A. Clark	32,048
Valves, Rotary, for Steam Engines	Jerome Wheelock	32,593
Valves, Safety, of Locomotives, Spring balance for.	James Hughes	33,198
Valves, Slide, operating, of Engines and Pumps	Wm. Braidwood and Jas. Whiting	31,139
Valves, Slide, for Steam Engines	A. J. Stevens	32,580
Valves, Sliding-stop	H. G. Ludlow, 2d	33,309
Valves, Steam	James H. Scott	31,629
Valves, Steam slide and cut-off	Lewis Eikenberry	33,735
Valve Arrangement	Lewis Eikenberry	32,055
Valve Gear of Steam Engines	J. R. Robinson	32,534
Valve Gear for Steam Engines	Julia A. Ross	33,368
Valve Gear of Steam Engines	Andrew Hartupee	33,690
Valve motion, Cut-off	Fr. B. Stevens	33,855
Valve motion for Steam Engines	J. H. Dialogue	31,010
Valves of Steam Engines	William Smith	31,335
Valves of Steam Engines, Operating	William J. Stevan	32,947
Valves and Valve motion for Steam Engines	John G. West, jr	33,561
Varnish, Apparatus for manufacturing	Fred. Walton	31,343
Varnish, Treating drying oils for the manufacture of	Fred. Walton	33,722
Vegetable fibres, Cleaning	Charles Brady	33,333
Vegetable fibre, Treating	Gelston Sanford	31,479
Vegetable and Mineral matter, Crushing and Pulverizing	Matthew Smith	33,405
Vehicles, Running-gear for four-wheeled	D. C. Brown	33,566
Vehicles moved by mechanical power, Regulating the speed of	John Griffin	31,595
Veneers, Cutting	Isaac J. Cole	33,279
Veneer planer	George Williamson	31,070
Ventilating Hats and Caps	J. O. Blythe	33,121
Ventilating and heating railroad cars	T. F. Strong	32,726
Ventilators	W. L. Washburn	32,730
Ventilators, Car	J. B. Bausman	31,943
Ventilators for houses	Samuel W. Williams	33,325
Ventilators for railroad cars	Wm. G. Creamer	33,071
Ventilators, Railroad Car	John Miller and Wm. Ketting	33,259
Ventilators, Railroad Car	F. H. Furniss	33,303
Ventilators for railroad cars	L. C. Beardsley	33,565
Ventilators, Railroad car	John A. Thompson	33,614
Ventilators, Railroad car	W. A. Brown	33,979
Ventilators, Tent	Joseph W. Ellis	33,934
Ventilators for windows	J. Londers and H. Iversen	31,672

Invention or Discovery.	Name of Patentee.	No.
Vessels, Ascertaining the curvature of the keels on bottoms of	H. E. Fowle	32,157
Vessels, Bracing yards of	Trangott Beck	33,977
Vessels, Buoying	E. Gonlara	31,885
Vessels, Construction of iron	S. J. Seeley	32,403
Vessels, Disinfecting foul air in	Alois Peteler	31,996
Vessels, Fire extinguishing apparatus	J. L. Stuart	32,389
Vessels, Iron	B. T. Babbit	32,741
Vessels, Iron navigable	S. J. Seeley	31,747
Vessels, Preserving	J. B. Wilson	32,805
Vessels, Protecting the hulls of, from balls	F. Contesse	32,121
Vice	Louis Tilliers	32,093
Vice, Broom	T. C. Hargraves	33,837
Vice, Joiner's bench	B. Haworth	32,913
Vines, etc., Composition to prevent decay of	B. Best	31,587
Vinegar, Manufacture, by the quick process	Fred. Michael	33,206
Violins, Tuning pegs for	John Albert	31,288
W.		
Wagons, Army cooking	G. F. Wilson	33,768
Wagons, Bending fifth wheels for	Charles Kieser	32,947
Wagon, Dumping	John Wilkinson	31,135
Wagons, Dumping	J. W. Nye	31,851
Wagons, Tail-boards of	Jos. O. Farrell	32,163
Wagons, Weighing carts or	N. E. Doane	31,155
Washboards	Warren Hill	32,994
Washboards	George Whitford	33,118
Washing knuckle	Alexander Warner	32,932
Washing Machines	J. M. Bois	31,223
Washing Machines	H. C. Alford	31,431
Washing Machines	C. Carter	31,528
Washing Machines	R. J. Converse	31,532
Washing Machines	Charles E. Toop	31,636
Washing Machines	R. W. George	31,882
Washing Machines	S. Hutchings and J. D. Leach	31,889
Washing Machines	Henry Bailey	32,113
Washing Machines	E. T. Shepard	32,150
Washing Machines	Henry Behn	32,175
Washing Machines	William Brannan	32,177
Washing Machines	James M. Tolley	32,214
Washing Machines	G. W. and P. M. Gould	32,220
Washing Machines	John S. Peaslee	32,253
Washing Machines	J. N. Wilson	32,325
Washing Machines	C. O. Luce	32,336
Washing Machines	L. L. Miller	32,342
Washing Machines	John D. Cochran	32,411
Washing Machines	James Doty, jr, and Asa H. Doty	32,417
Washing Machines	John Stevens and L. H. Buell	32,438
Washing Machines	H. M. Collier	32,469
Washing Machines	E. Gore	32,474
Washing Machines	Horace Boies	32,615
Washing Machines	D. R. Gamble	32,664
Washing Machines	Jerome and Gilbert Bacon	32,677
Washing Machines	John Young	32,806
Washing Machines	Samuel Nowlan	32,922
Washing Machines	Edwin A. Hall	33,081
Washing Machines	S. D. Jones	33,088
Washing Machines	M. S. Harshaw	33,146
Washing Machines	Lawrence Kearney	33,150
Washing Machines	George Minor and B. Beach	33,207
Washing Machines	John M. Oakley	33,311
Washing Machines	Joel Lee	33,352
Washing Machines	Benjamin Reed	33,363
Washing Machines	S. T. McDougall	33,441

Invention or Discovery.	Name of Patentee.	No.
Washing Machines	A. P. Quackenbush	33,449
Washing Machines	John R. Morrison	33,490
Washing Machines	A. P. Barlow	33,571
Washing Machines	S. Burr	33,567
Washing Machines	P. P. Parkhurst	33,661
Washing Machines	John De Long	33,878
Washing Machines	H. W. Johnson	33,888
Washing and Ringing Machine	Lewis Face	33,698
Watches	A. L. Dennison	31,009
Watches, Stop, Adjusting second hand in	A. Wadsworth	31,840
Watch escapement	G. P. Reed	31,999
Watch and locket rims, Making	D. B. Waite	32,159
Watch and locket rims	D. B. Waite	32,905
Water, Purifying	T. Jacobs and N. J. Wilkinson	31,891
Water closets	William S. Carr	33,070
Water closets	F. H. Bartholomew	33,632
Water closet utensil, Portable	James Robertson	33,494
Water elevators. (See *Elevators, Water.*)		
Water in steam boilers, Indicating the position of.	H. F. Hart	31,803
Watering cattle on railroad cars	William Robinson	33,605
Weather strips, Adjustable	O. B. Scofield	32,436
Weighing apparatus	A. B. Davis	31,533
Weighing apparatus	A. H. Platt and W. S. Rosecrans	33,403
Weighing carts or wagons	N. E. Doane	31,155
Weighing sacks, Machine for	Henry Winter	32,326
Weight and hitch strap for fastening horses	D. S. Bartlett	31,104
Wells, cisterns, etc., walling with grout, Apparatus for.	Fred. Wilford	31,503
Wheels	Peter Wright	33,916
Wheels, Car	W. W. Snow	31,488
Wheels, Car, Annealing	A. L. Mowry	32,252
Wheels for carriages	John C. Baker	32,742
Wheels, Carriage, Elastic	Seth D. Woodbury	33,809
Wheels, Carriage, Joints of felloes in	F. M. Gibson	31,309
Wheels, Carriage, Securing to axles	E. P. Hoyt	33,251
Wheels, Fly, Arranging	Horton B. Peck	31,935
Wheels, Paddle, Feathering	Thomas Cooley	33,518
Wheels, Propelling	C. Comstock and C. Glidden	32,182
Wheels, Railroad Car	G. G. Lobdell	31,467
Wheels, Railroad Car	O. O. Van Orman	33,273
Wheels, Scrolls of water	William H. Locke	31,810
Wheels, Uniting the spokes and felloes of wooden.	D. A. Johnson	31,462
Wheels for wagons, Bending fifth	Charles Keiser	32,947
Wheels, Water	G. W. Armstrong	31,217
Wheels, Water	Joel Harris	31,239
Wheels, Water	Ebenezer Tuttle	31,418
Wheels, Water	James Reed	31,739
Wheels, Water	Milton Dilts	31,790
Wheels, Water	William Dripps	31,961
Wheels, Water	Isaac D. Seely	32,004
Wheels, Water	Joel Haag and J. C. Smith	32,063
Wheels, Water	Charles Greenwalt	32,131
Wheels, Water	C. B. Kenyon and J. S. Brown	32,192
Wheels, Water	J. B. Caldwell	32,409
Wheels, Water	Henry Van Dewater	33,220
Wheels, Water	P. M. Hannas	33,584
Wheels, Water, Gates and chutes for	L. S. Fairchild and W. B. Sturgess	33,241
Wheels, Wind	J. L. McPherson and J. S. Harrison.	31,817
Wheels, Wind	Jacob Maag	32,428
Wheels and axles, Railroad, to run on different gauged tracks.	Otis Tufts	33,407
Wheel hubs, Carriage, securing on axles	John Scheeper	34,015

Invention or Discovery.	Name of Patentee.	No.
Wheelwright's Machine	Curtis Luther	32,072
Wheelwright's Machine	N. T. Edson	32,277
Whiffletree attachment	C. Marquardt	34,027
Whips	J. R. Cannon	31,370
Wicks, Trimming	A. R. Turner	31,915
Windlasses	D. M. Edwards and J. Horner	32,262
Windlass and Capstan, Combined	John S. Getchell	33,284
Window-sash, Hanging	George Dare	32,472
Window-shade	J. W. Ogle	32,432
Window-shutters, Operating	Hercules M. Wilson	33,553
Window-stop and Fastener	Clark Shaw	31,261
Winnowers, Grain	H. H. Beach	32,508
Winnowing Grain	J. J. Shafer	33,009
Winnowing Machines	J. K. Buck	32,857
Wire, Hardening and tempering	Ichabod Washburn	31,361
Wire-cloth Dish Covers	L. H. Allen	32,457
Wood, Bending	Enoch Robinson	33,467
Wood-bending Machine	Hiram McDonald	31,182
Wood-bending Machines	A. Luckhaupt	33,395
Wood, Cutting and Sawing	Jerome N. Hodge	32,945
Wool, Combing	Henry Rawson	32,784
Wool, Drawing and Spinning	John H. Bloodgood	33,374
Wool, Drying	Benjamin James	32,424
Wool, Machine for drawing and twisting	J. T. Plummer	31,031
Wool Washing	R. G. Turner and S. B. Robinson	33,408
Wrench	Ezra Ripley	31,034
Wrench	William Mason	31,576
Wrench	Charles H. Reynolds	31,826
Wrench	George W. Martin	32,106
Wrenches	G. B. Phillips	32,453
Wrenches	George Meader	32,838
Wrench, Pipe	James A. Wilcox	33,223
Wrenches, Screw, grinding heads for	L. and A. G. Coes	31,075
Wrench, Wagon	George B. Phillips	31,693
Wringing Machines	John Allender	32,954
Wringing Machines	P. D. Van Hoesen	33,409
Wringing and Washing Machine	Lewis Face	33,698
Y.		
Yard, Dressing	Hugh Whitehall	33,222
Yokes, Ox	T. W. Porter	32,646
Yokes, Ox	M. W. Mason	33,003
Z.		
Zinc, Oxide of, Preparation for a paint	Charles Tillerton	32,320
Zinc and other ores, Treating	Adrien Muller	32,840
Zinc from waste gases of furnaces, Collecting	H. Weissenborn	33,911

DESIGNS.

B.		
Bonnets	Nancy D. Terry	1,454
Burial Case	Bernard Smith	1,470
C.		
Cards	Andrew Dougherty	1,455
Carpet	R. Allen	1,366
Carpet, (two cases)	E. J. Noy	1,367

Invention or Discovery.	Name of Patentee.	No.
Carpet	E. J. Ney	1,368
Carpet	H. G. Thompson	1,370
Carpet	H. G. Thompson	1,371
Carpet	H. G. Thompson	1,372
Carpet	H. G. Thompson	1,373
Carpet	H. G. Thompson	1,374
Carpet	H. G. Thompson	1,375
Carpet	H. G. Thompson	1,376
Carpet	H. G. Thompson	1,377
Carpet	H. G. Thompson	1,378
Carpet	H. G. Thompson	1,379
Carpet	H. G. Thompson	1,380
Carpet	H. G. Thompson	1,381
Carpet	H. G. Thompson	1,382
Carpet	H. G. Thompson	1,383
Carpet	H. G. Thompson	1,384
Carpet	H. G. Thompson	1,385
Carpet	E. J. Ney	1,393
Carpet	E. J. Ney	1,394
Carpet	E. J. Ney	1,395
Carpet	H. G. Thompson	1,408
Carpet	H. G. Thompson	1,409
Carpet	H. G. Thompson	1,410
Carpet	H. G. Thompson	1,411
Carpet	H. G. Thompson	1,412
Carpet	H. G. Thompson	1,413
Carpet	H. G. Thompson	1,414
Carpet	H. G. Thompson	1,415
Carpet	H. G. Thompson	1,416
Carpet	H. G. Thompson	1,417
Carpet	H. G. Thompson	1,418
Carpet	E. J. Ney	1,459
Carpet	E J. Ney	1,460
Carpet	E. J. Ney	1,461
Carpet	E. J. Ney	1,462
Carpet	E. J. Ney	1,463
Carpet	E. J. Ney	1,464
Carpet	E. J. Ney	1,465
Carpet Pattern	E. J. Ney	1,443
Carpet Pattern	E. J. Ney	1,444
Carpet Pattern	E. J. Ney	1,445
Carpet Pattern	E. J. Ney	1,446
Carpet Pattern	E. J. Ney	1,447
Carpet Pattern	E. J. Ney	1,448
Carpet Pattern	E. J. Ney	1,449
Carpet Pattern	E. J. Ney	1,450
Carpet Pattern	E. J. Ney	1,451
Carpet Pattern	E. J. Ney	1,452
Carpet Pattern	E. J. Ney	1,480
Carpet Pattern	E. J. Ney	1,481
Carpet Pattern	E. J. Ney	1,482
Carpet Pattern	H. G. Thompson	1,489
Carpet Pattern	H. G. Thompson	1,490
Carpet Pattern	H. G. Thompson	1,491
Carpet Pattern	H. G. Thompson	1,492
Carpet Pattern	H. G. Thompson	1,493
Carpet Pattern	H. G. Thompson	1,494
Carpet Pattern	H. G. Thompson	1,495
Carpet Pattern	H. G. Thompson	1,496
Carpet Pattern	H. G. Thompson	1,497
Carpet Pattern	H. G. Thompson	1,498
Carpet Pattern	H. G. Thompson	1,499
Carpet Pattern	H. G. Thompson	1,500
Carpet Pattern	H. G. Thompson	1,501
Carpet Pattern	H. G. Thompson	1,502

Invention or Discovery.	Name of Patentee.	No.
Carpet Pattern	H. G. Thompson	1,503
Clock Case	E. C. Brewster	1,390
Clock Case	Henry K. Hotchkiss	1,484
Clock Case	Elias Ingraham	1,504
Clock Case Front	Elias Ingraham	1,392
Clock Case Front	Elias Ingraham	1,471
Clock Case Front	Henry Terry	1,483
Coffins	James McDuff	1,436
Cravat	J. A. Eshleman	1,488
Curtain Loops	Edward Maynard	1,428
D.		
Daguerreotype Cases	H. W. Hayden	1,434
Desk, School	Wm. P. Uhlinger	1,478
H.		
Handles of Table Spoons and Forks	J. Gorham, G. Thurber and L. Dexter, jr.	1,439
Handles, Spoon and Fork	J. Gorham, G. Thurber and L. Dexter, jr.	1,440
Hats	S. R. Hawley	1,421
Hats	J. J. Morrisett	1,429
Hats	James J. Morrisett	1,486
Horse Spur	Thomas Lyons	1,507
I		
Iron Doors	Garrettson Smith and H. Brown	1,453
L.		
Label on trade mark	J. D. Brewer	1,422
O.		
Oilcloth Pattern	James Hutchinson	1,435
P.		
Pencils, Lead, Trade-mark on	E. Faber	1,475
Picture Frame	F. Girard	1,479
Pumps	Miles Greenwood	1,425
R.		
Range, Summer	D. M. Scypes and S. Smith	1,457
S.		
Sewing Machine	C. A. Shaw and J. R. Clark	1,469
Skirt, Balmoral	C. W. Cooke	1,424
Slate roofing	Daniel Bickerby	1,467
Spoons	J. Gorham, G. Thurber, and L. Dexter, jr.	1,473
Stoves	J. D. Warren, J. B. Scofield, Isaac Wardwell, and A. J. Jones.	1,369
Stoves	N. S. Vedder and E. Ripley	1,389
Stoves	Jas. Horton and J. Martino	1,391
Stoves	A. C. Barstow	1,396
Stoves	W. W. Stanard	1,399
Stoves	W. W. Stanard	1,401
Stoves	Samuel W. Gibbs	1,404
Stoves	M. C. Burleigh	1,423

Invention or Discovery.	Name of Patentee.	No.
Stoves	Garrettson Smith & Henry Brown.	1,430
Stove, Cap and base of a parlor	S. W. Gibbs	1,458
Stove, Cook	N. S. Vedder	1,388
Stove, Cook	N. S. Vedder	1,431
Stove, Cook's	D. M. Scypes and S. Smith	1,456
Stove, Cook's	Gilbert Knapp	1,473
Stove, Cook's	Jacob Mersereau	1,474
Stove, Cook's	Caleb W. Palmer	1,485
Stove, Cooking	John Long	1,386
Stove, Cooking	N. S. Vedder	1,397
Stove, Cooking	Samuel W. Gibbs	1,406
Stoves, Cooking	Caleb W. Palmer	1,407
Stove, Cooking	G. Smith and H. Brown	1,420
Stoves, Cooking	J. C. Fay	1,438
Stoves, Egg cylinder	S. H. Sailer	1,476
Stoves, Gas burning cylinder	S. H. Sailer	1,477
Stoves, Laundry	Wm. A. Green	1,466
Stoves, Parlor	W. W. Stanard	1,400
Stoves, Parlor	Samuel W. Gibbs	1,405
Stoves, Parlor	Samuel W. Gibbs	1,427
Stoves, Parlor	Gardner Chilson	1,487
Stoves, Plates of a Cooking	J. Horton and J. Martino	1,442
Stoves, Plates of a Parlor	J. Horton and J. Martino	1,441
T.		
Teapot	Hiram Young	1,419
Trade mark	Sampson Hainemann	1,387
Trade mark	A. F. Johnson	1,426
Trade mark	Levi L. Tower	1,432
Tumblers	C. S. Chaffee	1,432
W.		
Window glass	Charles Probst	1,398
Window Shade Material	G. L. Kelty	1,437
Work-holder	C. A. Shaw	1,468

REISSUES, 1861.

A.		
Amalgamator, Gold	J. N. Wyckoff and T. M. Fell	1,169
B.		
Bedstead fastening	Elisha E. Everitt	1,160
Beehives	J. S. Harbison	1,226
Bonnet fronts	Geo. A. Cox	1,175
Boxes, Journal	P. S. Devlan	1,208
Boxes, Journal	P. S. Devlan	1,209
C.		
Candles, Moulding	Willis Humiston	1,131
Candles, Moulding	Willis Humiston	1,132
Cars, Street passenger, arrangement of Steam Engines for propelling	Robert H. Long	1,125
Cars, Transferring from one track to another	Wm. Wharton, jr	1,143
Cartridge, Metallic	Edward Maynard	1,192
Cheese, Manufacture of	F. A. Redington & Geo. McClure	1,189
Cheese vats	C. M. Wilkins	1,250

Invention or Discovery.	Name of Patentee.	No.
Clocks, Calender	W. S. Huntington and H. Platts	1,234
Clothes Wringer	Elliot Dickerman	1,119
Clover Separators	Christian Reif	1,135
Cotton ginning and burring wool	S. R. Parkhurst	1,137
Cotton Gins	L. Campbell and T. W. Brown	1,163
Curtain fixture, Window	R. B. Burchell	1,144
D.		
Dredging Crane	George Wood and John King	1,248
Drills, Seed	Jonathan Smith	1,166
E.		
Engines, Air	Philander Shaw	1,176
Envelopes, Making	E. W. Toodale	1,170
Epaulettes	Jas. S. Smith	1,239
Evaporator for hot air pipes	G. F. J. Colburn	1,165
F.		
Faucets, Measuring	Ira Kinman	1,148
Fire-arms	Merrill Pat. Fire-arm Man. Co	1,156
Fire-arms	Merrill Pat. Fire-arm Man. Co	1,157
Fire-arms	Merrill Pat. Fire-arm Man. Co	1,158
Fire-arms	Merrill Pat. Fire-arm Man. Co	1,159
Fire-arms, Breech-loading repeating	Christian Sharps	1,199
Friction Clutches	Wendall Wright	1,236
Furnaces, Steam boiler	J. R. Robinson	1,184
Furnaces of steam boilers, Promoting combustion in.	J. C. Tiffany	1,174
G.		
Gate	Jasper Johnson	1,121
Grain Cradles	M. R. Flanders	1,118
Grain Separators	J. A. Vaughn	1,120
Grain Separators	J. A. Vaughn	1,195
Grain Separators	J. A. Vaughn	1,196
Grain Separators	Jefferson Nash	1,215
Guns, Magazine	E. H. Graham	1,123
H.		
Hammer, Steam	R. R. Taylor	1,191
Handles, Spade, Shovel, or Dung fork	A. V., J. D. & F. Blanchard	1,231
Harrows	Daniel W. Shares	1,150
Harrows, Seeding	Henry Hewitt	1,151
Harvesters	A. Palmer and S. G. Williams	1,109
Harvesters	A. Palmer and S. G. Williams	1,110
Harvesters	John Gore	1,129
Harvesters	Samuel & J. H. Barley	1,130
Harvesters	Fred. Nishwitz	1,149
Harvesters	Huntley, Bowman & Co	1,171
Harvesters	Huntley, Bowman & Co	1,172
Harvesters	Geo. M. Selden	1,179
Harvesters	Geo. M. Selden	1,180
Harvesters	Geo. M. Selden	1,181
Harvesters	Wm. N. Whiteley, jr	1,203
Harvesters	W. A. Kirby and D. M. Osborne	1,211
Harvesters	T. H. Dodge	1,212
Harvesters	T. H. Dodge	1,213
Harvesters	T. H. Dodge	1,214
Harvesters	Rufus Dutton	1,215
Harvesters	T. H. Dodge	1,221

Invention or Discovery.	Name of Patentee.	No.
Harvesters, Grain and Grass	J. E. Brown and S. S. Bartlett	1,111
Harvesters, Grain and Grass	Cyrenus Wheeler, jr	1,252
Harvesters, Grain and Grass	Cyrenus Wheeler, jr	1,253
Harvesters, Grain and Grass	Cyrenus Wheeler, jr	1,254
Harvesters, Grass	J. S. & D. Lake	1,114
Harvesters, Grass	J. S. & D. Lake	1,115
Harvesters, Grass	J. S. & D. Lake	1,116
Harvesters, Grass	J. S. & D. Lake	1,117
Harvesters, Grass	Albert W. Morse	1,168
Harvesters, Track-clearers for	W. F. Ketchum	1,162
Hemp, Cutting	Wm. N. Whitely	1,200
Hemp, Cutting	Wm. N. Whitely	1,201
Hemp, Cutting	Wm. N. Whitely	1,202
Hoop machine	Amer. Hoop Machine Co.	1,173
Horse power	James Brayley and Mary Pitts	1,185
Horse power	James S. Upton	1,206
Hose coupling	Emerson Gaylord	1,186
I.		
Inkstands, Fountain	Francis Draper	1,164
Iron Railway Cars	S. J. Seely	1,273
Irregular forms, Machines for Cutting	R. J. Marcher	1,227
K.		
Kettles, Making brass	F. J. Seymour	1,183
Knife and fork cleaner	Sewall Brackett	1,134
L.		
Locks	L. F. Munger	1,167
Locks, Door	G. D. Baldwin	1,193
M.		
Metals, Burnishing	Jeremiah Stever	1,205
Meters, Gas	Charles C. Lloyd	1,153
Mills, Flouring	D. S. Wagener	1,136
Mills for grinding apples	W. O. Hickok	1,161
Mowing Machines	A. M. Hall	1,210
Mowing Machines	C. Aultman and L. Miller	1,245
Mowing Machines	C. Aultman and L. Miller	1,246
P.		
Paper boxes	Elisha Waters	1,212
Photographic baths	B. Hufnagle	1,152
Planing Machines, Wood	H. D. Stover	1,190
Ploughs, Mole	M. A. Howell, jr	1,138
Presses, Tobacco	George Linday and Wm. Cameron	1,124
Presses, Tobacco	Wm. Cameron	1,127
Presses, Tobacco	Wm. Cameron	1,128
Projectiles for Rifled Ordnance	A. A. Hotchkiss	1,207
Projectiles for Rifled Ordnance	A. A. Hotchkiss	1,249
Pulp Machine	George Sweetland	1,108
Pumps, Portable	W. T. Vose	1,146
R.		
Reaping Machines	W. H. Seymour, D. S. Morgan, and S. G. Williams.	1,177
Reflectors	Isaac P. Frink	1,251
Registers and Ventilators	Edward A. Tuttle	1,235

Invention or Discovery.	Name of Patentee.	No.
S.		
Seats, Car, into beds or lounges, Converting	H. B. Myer	1,228
Seats for public buildings	A. H. Allen	1,226
Seeding Machines	Lewis Moore	1,198
Sewing Machines	Elias Howe, jr	1,154
Sewing Machines	W. O. Grover and W. E. Baker	1,244
Sewing Machine Cases	F. A. Ross and W. H. Marshall	1,145
Ship building	Richard F. Loper	1,178
Ship's Winches	P. H. Jackson	1,141
Shirt bosoms	Ira Perago, jr	1,197
Skirts, Hooped, Making	C. Newman	1,155
Spring bed bottoms	Hiram Tucker	1,217
Spring, Car	Richard Vose	1,194
Spring, Car	Richard Vose	1,218
Spring, Railroad Car	A. T. Watson	1,214
Steam Engines	F. E. Sickles	1,106
Steam Engines	F. E. Sickles	1,107
Steam Engines	Edward Lynch	1,240
Stoves	D. G. Littlefield	1,232
Stoves	D. G. Littlefield	1,233
Stoves	D. G. Littlefield	1,237
Stoves	D. G. Littlefield	1,238
Stoves, Cooking	Samuel Pierce	1,241
Stoves, Cooking	Samuel Pierce	1,242
Stoves, Register for	S. H. Ransom & Co	1,139
T.		
Teeth, Porcelain	J. W. Moffitt	1,122
Teeth-fixtures	John H. Landell	1,247
Threshing machines	D. S. Wagener	1,133
Threshing machines	S. O. Oviatt	1,219
Timekeepers, Winding by currents of air	C. B. Hoard	1,140
V.		
Valves, Butterfly	N. Cope and Wm. Hodson	1,204
Valves of Steam Engines, Opening and closing the.	F. E. Sickles	1,112
Valves of Steam Engines, Opening and closing the.	F. E. Sickles	1,113
W.		
Wagons, Casting seamless skeins for	B. Leonard	1,229
Wagons, Seamless thimble-skeins for	B. Leonard	1,230
Washing Machines	John Young	1,216
Washing Machines	J. F. Pond	1,220
Wheels, Water	H. G. Nelson	1,187
Willow-peeler	J. M. Wood	1,147
Winch, Direct and counter-motion	Charles Perley	1,188

EXTENSIONS, 1861.

Bedstead, Folding	T. B. Bleecher	1,015
Boilers, Steam	Timothy Clark	5,254
Cables, Chain, Working and stopping	Thomas Brown	664
Dies for cutting screws	P. W. Gates	5,103
Grates, Fire	William Pulver	5,237
Lead-pipe Machinery	S. G. Cornell	5,253
Looms, Brussel, (Reissue No. 144)	E. B. Bigelow	5,020
Ordnance, Casting	T. J. Rodman	5,236
Pipes, Side, Connecting, with the steam chest	H. R. Dunham	5,032

Invention or discovery.	Name of Patentee.	No.
Printing Presses, Rotary	R. M. Hoe	5,199
Puddler's balls, Rolling and compressing	J. F. Winslow	5,309
Reaping Machines, (Reissue No. 149)	Obed Hussey	5,227
Reaping Machines, (Reissue No. 451)	Obed Hussey	5,227
Reaping Machines, (Reissue No. 742)	Obed Hussey	5,227
Reaping Machines, (Reissue No. 917)	Obed Hussey	5,227
Stone, Cutting	Charles Wilson	5,012
Wheels for Railroad Carriages, Cast Iron	Anson Atwood	5,112
Wheels for Railroad Carriages, Cast Iron	Anson Atwood	5,112
Wheels for Railroad Carriages, Cast Iron	Anson Atwood	5,112
Wire-grating, Weaving, (Reissue No. 747)	Henry Jenkins	5,005

ADDITIONAL IMPROVEMENTS, 1861.

Coupling for Railroad Cars	A. H. Rowand	315
Electrical apparatus for lighting gas	S. B. H. Vance	318
Gate	Jasper Johnson	312
Heels, Metallic, for Boots and Shoes	J. V. Dinsmore	311
Meters, Gas	G. J. Willson and D. H. Fox	316
Refrigerators	William M. Baker	310
Seats, Couch, for Railroad Cars	John Hartman, jr	314
Seeding Machines	F. Chamberlin	313
Thills to vehicles, Attaching	Douglas Bly	317

37TH CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { Ex. Doc. No. 53.

PATENT OFFICE REPORT FOR THE YEAR 1861—MECHANICAL.

LETTER

FROM

THE COMMISSIONER OF PATENTS,

TRANSMITTING

The Mechanical Report of the Patent Office for the year 1861.

FEBRUARY 14, 1862.—Laid on the table, and ordered to be printed.

JUNE 5, 1862.—*Resolved*, That twenty thousand extra copies of the Mechanical part of the Patent Office Report for 1861 be printed for the use of the House, and ten thousand copies for the use of the Patent Office.

UNITED STATES PATENT OFFICE,
February 13, 1862.

SIR: I have the honor herewith to transmit the annual report of this office for the year 1861, to be laid before Congress.

I am, very respectfully, your obedient servant,

D. P. HOLLOWAY,
Commissioner of Patents.

Hon. GALUSHA A. GROW,
Speaker of the House of Representatives, Washington, D. C.

UNITED STATES PATENT OFFICE,
January 31, 1862.

SIR: In conformity with the requirements of the 14th section of the act of March 3, 1837, entitled "An act in addition to the act to promote the progress of science and useful arts," I most respectfully submit the following report:

In the section of the act above referred to it is declared to be the duty of the Commissioner of Patents "to lay before Congress, in the month of January, annually, a detailed statement of the expenditures and payments by him made from said (patent) fund. And it shall also be his duty to lay before Congress, in the month of January, annually, a list of all patents which shall have been granted during the preceding year, designated under proper heads, the subjects

of such patents, and furnishing an alphabetical list of the patentees, with their places of residence; and he shall also furnish a list of all patents which shall have become public property during the same period, together with such other information of the state and condition of the Patent Office as may be useful to Congress or to the public."

The first provision of the above instructions to the Commissioner requires "a detailed statement of the expenditures and payments by him made." For a more complete and intelligible exposition of the affairs of the office, I beg leave to submit the following statement:

No. 1.

Number of applications received during the year	4,643
Number of patents granted, including designs, reissues, and additional improvements	3,340
Number of caveats filed	700
Number of applications for extension of patents	16
Number of patents extended	21
Number of patents expired December 31, 1861	516

No. 2.

Statement of moneys received during the year.

On applications for patents, reissues, designs, additional improvements, extensions, caveats, disclaimers, and appeals	$125,601 00
For copies and for recording assignments	11,753 44
Total	137,354 44

No. 3.

Statement of expenditures from the patent fund during the year.

For salaries	$92,868 92
For contingent expenses	59,502 36
For temporary clerks	43,791 31
For withdrawals	23,173 32
For refunding money paid by mistake	1,306 00
For judges in appeal cases	850 00
Total	221,491 91

No. 4.

Statement of the condition of the patent fund.

Amount to credit of patent fund on January 1, 1861	$89,554 07
Amount paid in during the year	137,354 44
Total	226,908 51
From which deduct expenditures during the year	221,491 91
Which leaves to the credit of the patent fund January 1, 1862	5,416 60

No. 5.

Quarterly statement of expenditures for 1861.

First quarter	$61,050 23
Second quarter	62,439 25
Third quarter	52,104 58
Fourth quarter	45,897 85
Total expenditure	221,491 91

No. 6.

Table exhibiting the business of the office for twenty-five years ending December 31, 1861.

Years.	Applications filed.	Caveats filed.	Patents issu'd.	Cash received.	Cash expended.
1837			435	$29,289 08	$33,506 98
1838			520	42,123 54	37,402 10
1839			425	37,260 00	34,543 51
1840	765	228	473	38,056 51	39,020 67
1841	847	312	495	40,413 01	52,666 87
1842	761	291	517	36,505 68	31,241 48
1843	819	315	531	35,315 81	30,766 96
1844	1,045	380	502	42,509 26	36,344 73
1845	1,246	452	502	51,076 14	39,395 65
1846	1,272	448	619	50,264 16	46,158 71
1847	1,531	553	572	63,111 19	41,878 35
1848	1,628	607	660	67,576 69	58,906 84
1849	1,955	595	1,070	80,752 78	77,716 44
1850	2,193	602	995	86,927 05	80,100 05
1851	2,258	760	869	95,738 61	86,916 93
1852	2,639	996	1,020	112,056 34	95,916 91
1853	2,673	901	958	121,527 45	132,869 83
1854	3,324	868	1,902	163,789 84	167,146 32
1855	4,435	906	2,024	216,459 35	179,540 33
1856	4,960	1,024	2,502	192,588 02	199,931 02
1857	4,771	1,010	2,910	196,132 01	211,582 09
1858	5,364	943	3,710	203,716 16	193,193 74
1859	6,225	1,097	4,538	245,942 15	210,278 41
1860	7,653	1,084	4,819	256,352 59	252,820 80
1861	4,643	700	3,340	137,354 44	221,491 91

While the aggregate receipts of the office have been but $137,354 44, the expenditures have amounted to $221,491 91.

By the act of March 2, 1861, the expenses of the office were largely increased, as follows:

Salaries of examiners in chief	$6,437 53
Salaries of Commissioner and chief clerk	1,500 00
Printing	17,854 37
Total	25,791 90

The receipts of the past year have fallen $118,998 15 below those of the previous year; and the expenditures, omitting the above $25,791 90 as extra, have been $51,220 79 less than those of 1860. The cause of this great falling off of receipts must be apparent to every reader. The great inventive mind of the country has been attracted in another direction by the startling scenes of rebellion which have transpired. A state of civil war has deprived this office of the patronage of most of the slave-holding States; the enterprise of the loyal States has, to a great degree, been paralyzed, and the sale of patent rights, as an article of traffic, has, in a great measure, been abandoned.

To provide for this state of affairs, I have been compelled to resort to a most rigid economy. To bring the expenditures as nearly as possible within the ability of the office to meet them, by way of retrenchment I dismissed five principal examiners, five assistant examiners, and five second assistant examiners. The compensation fixed by law of the principal examiners is $2,500; the assistants, $1,800; the second assistants, $1,600. The business required that seven of each of these classes should be retained; but a still further reduction of expenditure being necessary, I dismissed the principal examiners and appointed them assistant examiners, and they are now receiving but $1,800 per year; the assistant examiners were dismissed and appointed second assistant examiners, at a salary of $1,600; the second assistants were dismissed and appointed clerks, at an annual salary of $1,400. These officers, however, have all been performing the duties pertaining to their original positions. A large reduction was also made in the salaries of the clerks. The temporary clerks, who formerly received ten cents per one hundred words for copying, are now paid but eight cents. This was regarded as a legitimate reduction, as the office receives for such work, by law, the same compensation formerly paid the clerks, while the expense of superintending clerks, stationery, &c., exceeded five thousand dollars per annum. A large number of laborers, watchmen, and attendants have been dismissed, and their places are now vacant. The reduction of the salaries of the examiners and clerks has been very onerous to them. The expenses of living in this city are largely increased by the centring here of a large army, and the attraction of thousands of civilians, who largely consume the necessaries of life, which, at all times, are less abundant here than in many other portions of the country. The military necessity, which required the closing of the communication between the farmers of Virginia, from whom a greater part of the usual supplies come, and the market of this city, has contributed much to the expense of living in Washington. For these reasons I respectfully submit to Congress the justice and propriety of conferring upon the Commissioner of Patents authority to refund the difference in the salaries of the examiners and clerks, between the amount allowed by law and that now received by them, whenever, in his opinion, the funds of the office will justify it.

The 14th section of the act approved March 2, 1861, provides "that the Commissioner of Patents be, and is hereby, authorized to print, or, in his discretion, to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of all drawings of the same, when drawings shall accompany the patents: *Provided*, the cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationery, the sum of two cents per hundred words for each of said copies, and the cost of the drawing shall not exceed fifty cents per copy; one copy of the above number shall be printed on parchment, to be affixed to the letters patent; the work shall be under the direction, and subject to the approval, of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund."

In accordance with this provision of the law, and with the approval of the Secretary of the Interior, I contracted with a responsible party for the execu-

tion of the work. The issues from the 2d of March to the 1st of November, 1861, were printed in a superior style, and the drawing executed in the most satisfactory manner by the photographic art.

This feature of the law has given eminent satisfaction to the inventors of this country, and has commanded the admiration of inventors and the superintendents of patent departments in many other countries. The imperative necessity which required it to be suspended was and is greatly to be deplored; but I earnestly hope that Congress will take the necessary steps to resume it at as early a day as practicable.

The importance of furnishing to the public the most complete practicable information in relation to every patented invention is obvious. Each patent, as the name implies, should be open to the perusal of all, and as it has the effect of a law should be published at the public expense, as all other laws. The people of the country should have full information as to all patented inventions, firstly, that by a knowledge of the full extent of the exclusive privilege claimed by the holder of a patent they may not be exposed to damages for infringing upon it; secondly, that they may not be induced to believe that the holder of a patent has exclusive privilege for more than is described and claimed in his specification; thirdly, that they may be informed as to the actual progress of the useful arts and avail themselves of the most useful inventions; and fourthly, that the whole inventive genius of the country may be stimulated by the examples and suggestions furnished by descriptions and representations of each year's inventions.

Congress has evinced its appreciation of the importance of furnishing such information by the large appropriations which it has heretofore authorized for the publication of the mechanical reports of this office. I have been furnished by the Superintendent of Public Printing with a statement of the cost of printing, paper, binding, &c., of the mechanical reports of this office for each of the last three years, which is as follows:

1858, 3 volumes, 32,950 copies, cost	$85,659 08
1859, 2 volumes, 68,550 copies, cost	138,700 32
1860, 2 volumes, 66,550 copies, cost	118,992 09

These reports contain merely brief abstracts of the specifications made originally by examiners in the office, and latterly furnished by individuals out of the office by contract, and consequently prepared with the least possible expenditure of labor and expense, with the claims generally unintelligible, without the full description contained in the specifications. Meagre and unsatisfactory as these abstracts are, the reports have been most eagerly sought for by the public. The publication of these reports will, I think, prove to have been most wisely suspended, if the substitute can be provided which was intended to be secured by the late law.

In making provision for this great public want Congress should not be unmindful of the examples of other nations most advanced in the mechanical arts. In Great Britain, France, Sardinia, and Belgium, the specifications are published in full, and in such a form that printed copies may be furnished to all who may apply for them, at cost price, while the entire publications are extensively distributed for the free use of the public. In Prussia, Saxony and Bavaria, official journals are published containing full abstracts and lists of the specifications of patents. The publications of specifications of patents made by the French government consist of 91 volumes, quarto, of the old law, and 35 volumes, quarto, of the law of 1844. All which have been presented to the library of this office.

In Great Britain the publications of the specification and drawings of patents has been made upon a scale of magnificence which entitles it to be regarded as one of her great national works. The great seal patent office has published the complete specifications and drawings of patents granted by that office since

1623, in two series, the old law series from 1623 to 1852, and the new series from October, 1852, to the present time. The old law series, comprising 12,977 patents in number, are contained in about 900 volumes, 450 folio volumes of drawings, and the like number of imperial octavo volumes of letter-press. The indices form seven imperial octavo volumes. The cost of these works in 1859 amounted to £92,000. The expense of printing for 1859 was estimated by the Commissioner of Patents at £17,500.

The publications of the great seal office consist of the specifications and drawings of patents granted, (the drawings are not photographic,) a subject-matter index of patents, an alphabetical index of patentees, a chronological index of patents, commissioners of patents journals, (published semi-weekly,) assignments of specifications of various classes of patents, of which twenty volumes have been published, and all are in course of publication.

The publications are distributed among one hundred and seven libraries and offices in Great Britain, twenty-six libraries in the British colonies, and twenty-two in foreign countries. Of these last, six are in the United States; the cost of which has been upwards of £10,000. The cost of the continuation is at least $1,500 weekly. For these costly works our government has been able to make no return except the meagre abstracts heretofore published by us.

No attempt has been made in the publications ordered by me, under the provisions of the late law, to imitate the costly works published by the great seal office; but the publications, though not wanting in taste and finish, are believed to be of equal practical value. Many advantages have already been presented by a brief trial of this system in this office, among which may be mentioned the readiness of inventors to furnish more artistic and detailed drawings, at a greatly increased expense, with the view of exhibiting these inventions to the best advantage; a change which would greatly facilitate the examinations of the office as well as aid inventors in making inquiries as to the patentability of their inventions. Through the improvement in the drawings, thus effected, and by the adoption of the photographic system of illustration, it is believed that the publications, if continued, would surpass in practical value those of Great Britain.

The depressed condition of the financial affairs of this office, incident to the state of the country, has alone induced me to abandon the wise provision of Congress, requiring the printing in full of the specifications and drawings of the patents issued from this office. From a careful examination of the matter, I am induced to believe that if Congress were to appropriate a sum sufficient to defray the expense heretofore incurred in the printing of the specifications and drawings of the patents, and which will not exceed one-half the sum heretofore expended from the general fund of the government, the office will be able hereafter to meet the expense thus to be incurred. This will enable those who desire copies to secure them at a small cost comparatively with what they now have to pay for manuscript copies. I am induced to believe that an appropriation of fifty thousand dollars for the present year would enable the office to carry out this most salutary provision of the law of the last Congress. An abandonment of the publication of the mechanical reports, rendered unnecessary by the printing of the specifications and drawings, under the law of March 2, 1861, would save to the government, after making the appropriation above requested, the sum of $

The restoration to the Patent Office fund of the amount withdrawn from it in conformity with the provision of the law of March 2, 1861, would be an act of simple justice to the inventors of the country, by whom this fund has been contributed. It would seem to be inequitable for them to bear the expense of introducing a new system of publication, the benefits of which are not for themselves but the general public. It is believed that this charge would not have

been imposed by Congress upon the patent fund, if the diminution of then existing surplus fund, in consequence of the financial difficulties of the country, had been anticipated. The inventors have already been heavily taxed for the erection of the Patent Office building. There has been contributed by the patent fund for this purpose:

By act of July 4, 1836	$108,000
By act of March 3, 1849	50,000
By act of May 15, 1850	90,000
By act of September 30, 1850, appropriating $110,000, if so much remained in the patent fund	71,000
Making the whole amount contributed	319,000

The appropriation of this fund is justified only by the consideration that the inventors derive the most immediate benefit from the use of the Patent Office building. It cannot be doubted that the whole patent fund should be preserved for the use of those who contributed it, and certainly that the efficiency of the office for whose support this fund is primarily intended should not be impaired by the diversion of any part of it for secondary purposes. Congress has heretofore recognized the propriety of reimbursing the patent fund for all sums withdrawn for the benefit of the general public. Appropriations had from year to year been made of sums to be paid out of the patent fund for the collection of agricultural statistics and the purchase of seeds. By the act of March 3, 1855, the sum of forty thousand and seventy-eight dollars and seventy-eight cents was appropriated by Congress, to be paid out of any money in the treasury not otherwise appropriated, for the reimbursement to the patent fund of the whole amount thus withdrawn from the fund for the purposes above mentioned.

It is important to be observed that it is indispensable that the printing of these publications should be done under the immediate supervision and control of the office. The specifications and drawings should not be removed from the office, as they are in constant demand for reference, and the inventors demand that there should not be a day's delay in issuing the patents after their date, which will be always liable to happen if the work should be done with other public printing. The type should be set up within the office, directly from the specifications. By doing this the cost of copy for the printer and the cost of recording the specifications will be saved, both of which are necessary when the setting of the type is done out of the office. The saving in these two items are the most important elements of the practicability of continuing the printing at the expense of the office.

As these publications, if continued, will be intended to supply the place of the former Patent Office Reports, and the gratuitous distribution to individuals will, of course, be dispensed with, some provision should be made to place them before the public. A sufficient number might be purchased by Congress at the same rate that may be charged to individuals, to place them in the most important libraries in each State, and to make exchanges demanded by national courtesy with foreign governments. A thousand copies, it is believed, will be sufficient to communicate the information as to the inventions of this office as effectually as has been done by the gratuitous distribution to individuals of the former reports.

PROPOSED AMENDMENTS.

By the law of March 2, 1861, it is provided that on filing each original application for a patent, except for a design, fifteen dollars shall be paid, and on

issuing each original patent, twenty dollars. Practically, this postponement of the payment of the final fee operates disadvantageously to the office. The evidence of the truth of this statement is found in the fact that more than four hundred patents which have been ordered to be issued are now in the office awaiting the payment of the twenty dollars. Thus the office is deprived of more than eight thousand dollars, for which it rendered its time and labor. If this provision should remain as it now is the number will largely increase, and, of course, will prove a great loss to the fund, and may prove the source of endless litigation. It may be further observed that, until the additional fees are paid on these applications, each operates as a caveat which may be perpetual without the yearly renewal and fee required in other cases for perpetuating caveats, the public deriving no benefit from the publication of the patent, and other inventors being excluded from obtaining patents for the inventions. I would respectfully suggest that the law be amended, either by restoring the former provision, that the whole fee be paid on making the application, twenty dollars to be repaid to the applicant when the application is finally rejected and withdrawn; or that the application fee, intended to cover the expense of examination, should be increased to twenty-five dollars, and that ten dollars should be required on the issuing of the patent.

The avowed object of the second section of the act of the 2d of March, 1861, is "securing greater uniformity of action in the grant and refusal of letters patent." This is attempted to be effected by the creation of three examiners-in-chief, whose duty it is made to "revise and determine upon the validity of decisions made by examiners when adverse to the grant of letters patent, and in interference cases." It was expected by this means to relieve the Commissioner of a portion of the labor of the duties of office imposed upon him, but it has utterly failed to secure this last-named object.

As now constituted under the law, the examiners-in-chief form a tribunal independent of the Commissioner in all cases of rejection or interference decided by the examiner. An appeal lies from the examiner to them, from them to the Commissioner, and from him to one of the judges of the circuit court of the District of Columbia.

The chief justice has decided that an appellant must go through each tribunal before the judge of the circuit court can take jurisdiction of his case.

This state of the law and practice is far from beneficial to the public, and does not tend to secure greater uniformity of action in the grant or refusal of letters patent, and does certainly greatly augment the labor of the Commissioner. The act, in my opinion, should be so amended as to render the duties of the examiner-in-chief advisory only, so that an appeal, as formerly, may be taken from the examiner or from the Commissioner to the circuit court. All appeals should be taken from the decision of the examiner directly to the Commissioner, who could then refer it to the examiners-in-chief, or, if his time permitted, hear it in person.

The disturbed condition of the country has brought to view a deficiency in the patent laws with respect to the protection of the rights of assignees of inventions, which demands the attention of Congress. In many cases patents cannot be awarded to applicants except upon amendment of their specifications and claims. After an application has been once examined and rejected, the law requires a renewal of the oath of invention, by the inventor, before the amended specification can be re-examined. Cases have lately arisen, where an inventor having filed his application for a patent, and assigned his whole interest in the invention, has disappeared or is *non inventus*, after the first examination and rejection; although in such case the defects in the specification might be cured by amendment, the inventor cannot be found to renew the oath required by law, and the assignee, the actual holder of the invention, is without remedy. In

case of the death of an inventor before a patent shall have been granted for his invention, the right of applying for and obtaining a patent therefor devolves, by law, upon his executor or administrator. I would recommend that provision be made, by law, that when the inventor after making his application and assigning his invention may not be found, the right of renewing the oath of invention and amending the specification shall devolve upon the assignee.

It is difficult to conceive of any substantial reason for the provision contained in the 7th section of the law of 1836, which requires that an applicant for a patent, before making any alteration in his specification, "shall be required to make oath or affirmation anew." It is certain that no protection to the public is secured by this provision, while the requirement is a matter of great inconvenience to the applicant and the office. The inconvenience of this requirement has been particularly apparent since the number of foreign applications has been greatly increased, in consequence of the reduction of fees made by the law of 1861. Applications from Europe and California have often been delayed for months for the renewal of the oath required, before the slightest amendment could be made. I would recommend that the laws be so amended as to dispense wholly with the renewal of the oath of invention.

COPY-RIGHT.

The duties connected with the custody of all books, maps, and other publications deposited in the Department of the Interior, according to the laws regulating copy-rights, having been imposed upon this bureau, for the execution of which duty a yearly appropriation is now required, I beg leave to recommend a reform which will not only save this expenditure but secure other important advantages to the public.

By the act of Congress approved May 31, 1790, it was required of every person desiring to secure a copy-right, to deliver a copy of the work to the Secretary of State within six months of its publication, "to be preserved in his office." This requirement continued in force under the amendment to the act approved April 29, 1802, and by the "act amending the several acts protecting copy-rights," approved February 3, 1831, it was required that a copy of the work should, within three months of its publication, be delivered to the clerk of the district court of the United States of the district wherein the author or proprietor should reside, and that it should be the duty of the clerk once at least in every year to transmit all copies of works thus received to the Secretary of State, "to be preserved in his office." By an act approved February 5, 1859, the Secretary of the Interior was substituted for the Secretary of State, and all works and records heretofore received were ordered to be transmitted by the latter to the former, no change in any other provision of the copy-right law being made.

It appears, therefore, that for a period of seventy years, from 1790 to 1860, one copy of every work claiming security of copy-right has been required by law to be deposited in an executive department of the federal government for a period of forty years by the author directly, and for thirty subsequent years through the agency of clerks of the United States district courts. The result contemplated by this requirement was a collection of copy-right matter at the national capital in the lapse of years, as valuable as it would be interesting, and it is to be regretted that circumstances should have tended in any degree to defeat this end.

The earliest record of the receipt of a copy-right by the Secretary of State bears date January 19, 1796, although copies of two works, one dated 1794, and the other 1795, are found in the library, of the receipt of which no record exists. From 1796 to 1831, during which period copy-rights were required to be transmitted directly to the Secretary of State by the author or proprietor,

the record of certificates of receipt is unbroken; and during the eleven years from 1831 to 1841, both inclusive, the register of works received at the Department of State from United States district courts, under the act of the former years, seems equally perfect. But here ceases all record or register at the Department of State of copy-rights received; and for a period of twenty years, from 1841 to 1860, when a register was commenced at this office, whither the service had been transferred, the only source available from which could now be compiled a complete catalogue of all the copy-rights entered during that period in the United States, are the lists and records, more or less perfect, transmitted more or less regularly by the clerks of the United States district courts, in accordance with the act.

From 1796 to 1831 the whole number of copy-right works actually received at the Department of State was 2,212, whilst the whole number for the same period received from the Department of State in 1859 at the Patent Office was but 929, or less than one-half. The whole number of copy-rights received at the State Department from 1831 to 1841, both inclusive, was 10,073, whilst the whole number received at the Patent Office in 1859 was 6,017. The whole number received at the State Department from 1841 to 1859, both exclusive, is estimated in round numbers at 40,000, whilst the whole number received for the same period at the Patent Office did not exceed 30,000.

Out of some 50,000 copy-right works, therefore, deposited in accordance with law, to be preserved, from 1790 to 1859, less than 40,000 are now to be found. It appears, also, from careful comparison of the records of applications for copy-right with the list of works received for a series of years, that not more than two-thirds of all the works for which a copy-right is requested are ever deposited with the clerks of the district courts of the United States, as is required by the act of 1831, or, if so deposited, are ever transmitted by the clerks to this city, as is also required.

The evil resulting from the continuance of such a state of things is too obvious to demand comment. It is easy to suppose a case in which the absence of copy-right work from the place where the law requires it to be found, when called for as a legal voucher, might prove extremely detrimental to the interests of its proprietor, especially when it is considered that judicial decisions hold that proof of the fulfilment of the act in the minutest particular is indispensable to the security of the right.

The copy-right works now received at this office are carefully registered and preserved, and this done at an annual expense of more than $1,600. That this service may be rendered self-sustaining, like the Patent Office, can be readily demonstrated, and thus a saving of the above-named amount be made to the treasury.

At the Stationers' Hall, in London, all applications for copy-rights in England are made; from thence all certificates on the subject are issued, and there all works are received for preservation. The same service could be performed at the Patent Office for the United States, and be sustained by the same amount of fees now allowed clerks of the United States district courts by the act of 1831.

Under the existing law, the perfecting of a copy-right is made dependent on the performance of certain duties by district clerks of the United States, no penalty being prescribed for neglect of those duties. These officials are not subject by any law to the directions of the department or office charged with the superintendence of the service. Hence, with perfect impunity, a clerk in one of the districts has for eight years refused to transmit either records or copy-rights to this office, in obedience to the law, on plea of insufficiency of compensation. Other clerks are equally negligent of their duties. The present system has utterly failed to secure the object contemplated by the original enactment, and so valuable to those authors who desire protection for their works. Had

the plan now suggested been carried out with the same fidelity as has been the Patent Office, we would now have a copy of almost every book, pamphlet, map, chart, and musical composition ever published in this country. I need not enlarge upon the value of such a collection.

It is a subject of congratulation, to which I am happy to refer in closing this report, that notwithstanding the occupation of the public mind with the paramount thought of defending the government, and the apparent diversion of so much activity from peaceful to military pursuits, the business of this office, so sensitive to any financial or industrial change, shows a vitality in the industrial arts of the country not to have been expected in time of war. Of the applications for patents made during the month of December last, arranged according to the classification of the office, there were, in the classes of—

Agricultural implements	63
Calorifics and photics	45
Chemical processes	40
Land conveyance and engineering	59
Fibrous and textile manufactures	9
Fine arts	24
Household furniture	31
Leather, harness, and wearing apparel	42
Lumber, stone, and clay	19
Philosophical and surgical instruments	22
Navigation	8
Steam and air engines, hydraulics, and pneumatics	35
Metallurgic manufactures	23
Fire-arms and implements of war	58

It appears by this statement that 420 were for inventions in the peaceful arts, and 58 only in implements of war. Although some of the former are adapted for military use, it would be safe to say that five-sixths are inventions connected with productive industry—a proof that the productive interests of the loyal States have not been materially disturbed by the national convulsion.

As the power to maintain war depends upon the productive labor of the country, and the capacity of production is increased by new inventions, it is hoped that Congress will regard the encouragement of an institution which stimulates and protects the inventive resources of the country as not simply a duty, but a national necessity.

D. P. HOLLOWAY,
Commissioner of Patents.

Hon. GALUSHA A. GROW,
Speaker of the House of Representatives.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR INVENTIONS AND DISCOVERIES HAVE EXPIRED DURING THE YEAR 1861.

No.	Patentee.	Invention or discovery.	Date.	Class.
5350	Abels, J. M	Water wheels	Oct. 30, 1847	XI.
5102	Ahrens, Adolph F	Casters, ball	May 8, 1847	II.
4995	*Albert*, Emanuel	Ploughs	Mar. 6, 1847	I.
5299	Albro, James, jr	Printing oil-cloth carpeting	Sept. 18, 1847	XVIII.
5105	Aldrich, Asahel	Syphons for elevating water, &c	May 8, 1847	XI.
5025	Allen, Horatio	Valves, cut-off	Mar. 20, 1847	VI.
5357	Allen, Thomas W., and Charles W. Noyes	Stuffing boxes	Nov. 6, 1847	VI.
1472	Allen, Samuel S	Hulling, husking, and shelling corn	Jan. 15, 1840	I.
5323	Ames, Horatio	Iron, machinery for twisting and rolling	Oct. 9, 1847; in England July 29, '47.	II.
5087	Andrews, Manassah	Bit stocks	April 24, 1847	XIV.
1882	Andrews, Solomon	Padlocks for mail bags, &c	Dec. 5, 1840	II.
5215	Anthony, David	Horse-powers	Aug. 7, 1847	XIII.
5229	Anthony, David	Threshing machines	Aug. 7, 1847	I.
5239	Antognini, Bernard	Cooking apparatus	Aug. 14, 1847	V.
4963	Armstrong, James, and Hardy Herring	Water wheels	Feb. 9, 1847	XI.
4994	Austin, Arnold R., assignor to S. D. Glines	Cloth, machinery for folding and measuring	Mar. 6, 1847	III.
2134	Austin, Frederick J	Machinery for cutting paper and trimming books	June 16, 1841; antedated Dec. 4, '40.	III.
5106	Avery, Ira	Wringing machines	May 8, 1847	XVII.
5308	Avery, Ira	Cars, propelling	Sept. 25, 1847	X.
5089	Avery, Zelotes W., assignor to B. Webb	Wrench, ratchet	Mar. 13, 1847	II.
5363	Babbitt, W. H	Ploughs, hill-side	Nov. 6, 1847	I.
5307	Backus, Evens	Fire-places, parlor	Sept. 25, 1847	V.
4957	Bacon, Richard	Fuses for blasting, &c	Feb. 5, 1847	IX.
5304	Bacon, Lathrop S	Stoves, cooking	April 11, 1848; antedated Oct. 11, '47.	V.
4991	Bagley, Albert G	Pens, forming metallic barrel, by drawing	Feb. 27, 1847	XVIII.
5437	Baker, William	Sash-fasteners	Feb. 8, 1848; antedated Aug. 8, '47.	II.
1485	Baldwin, James	Loom shuttles for weaving cloth	Jan. 31, 1840	III.
4947	Ball, Daniel	Doors, apparatus for closing	Feb. 1, 1847	II.
5060	Ball, Daniel	Bedstead fastenings	April 10, 1847	XVII.
4981	Ball, Hosea	Dough, &c., mixing and breaking	Feb. 27, 1847	XVII.
5031	Bamborough, John	Wheat fans	Mar. 20, 1847	XIII.
5746	Baranowski, Jos. Jean	Calculating machines	Sept. 5, 1848; antedated Nov. 25, '47	VIII.
5143	Barber, Asa	Mills for grinding	June 5, 1847	XIII.
5129	Barber, S., assignor to James A. Stevens	Valves, operating cut-off	May 22, 1847	VI.
5137	Barley, Samuel	Threshing machines	June 5, 1847	I.
5278	Barr, William P., assignor to G. Bruce and P. C. Cortelyou	Type, casting	Sept. 4, 1847	II.
5348	Barrett, Jonathan F	*Horse powers*	Oct. 30, 1847	XIII.
5176	*Bartlett, Albert G*	Trusses	June 26, 1847	XX.
5305	Bassett, John L	Fasteners, window blind	Sept. 25, 1847	II.
5295	Batun, Joseph	Gas pipes, hydrostatic stops for	Sept. 18, 1847	IV.
5300	Battin, Joseph	Gas regulators	Sept. 18, 1847	IV.
5135	Bayless, William H	Distilling	May 29, 1847	IV.
5051	Beers, John D	Valves of steam engines	April 3, 1847	VI.
5250	Behel, Jacob	Winnowing machines	Aug. 21, 1847	I.
5308	Belter, John H	Sawing arabesque chair backs, machinery for	July 31, 1847	XIV.

7558	Benionski, Bartholomew	Printing presses, cylinder	Aug. 13, 1850; antedated Oct. 14, '47.	XVIII.
5185	Benson, Benjamin S	Steam-engines	July 10, 1847	VI.
5322	Berdan, Hiram	Grain and straw separators	Oct. 9, 1847	I.
5267	Bicknell, Robert M., and C. J. Abel	Brushes, scrubbing	Sept. 4, 1847	XVII.
5265	Bingham, James	Clasps, catches for	Sept. 11, 1847	XVIII.
5142	Black, James	Steam-engines, rotary	June 5, 1847	VI.
4937	Blanc, Jean	Farm sifters	Jan. 21, 1847	I.
5254	Blanchard, Isaac L	Vessels, steering apparatus for	Sept. 11, 1847	VII.
4930	Blodgett, Henry	Baths, fountains for shower	Jan. 15, 1847	XX.
4914	Boardman, Chauncey, and J. A. Wells	Clocks	Jan. 1, 1847	VIII.
5352	Boardman, William, jr	Pumps, portable steam	Nov. 6, 1847	XI.
5260	Bosworth, Nathaniel, jr	Stoves, cooking	Aug. 28, 1847	V.
5270	Bower, Jacob H	Kiln, construction of lime	Sept. 4, 1847	XV.
5068	Bowden, U. A	Water wheels, &c., hanging shafts of	April 17, 1847	XI.
5406	Brainard, W. G	Fences	Dec. 28, 1847	IX.
4958	Brannan, Robert	Paints, composition for	Feb. 5, 1847	IV.
5390	Briggs, Cornelius	Tablet, sofa	Dec. 11, 1847	XVII.
5365	Briggs, Henry F	Shoulder braces	May 16, 1848; antedated Nov. 16, '47.	XX.
5326	Broadmeadow, Simeon	Furnaces for the manufacture of steel	Oct. 9, 1847	II.
11404	Brown, Thomas	Cables, arrangement for working and stopping	July 25, 1854; antedated Apr. 28, '47.	VII.
5408	Brown, Andrew D	Saddles, harness	Dec. 28, 1847	XVI.
5344	Brown, David	Ship-building	Oct. 30, 1847	VII.
5132	Brown, J. M. & B. B	Rake, hay and grain	May 29, 1847	I.
5336	Brown, John	Sawing hand-rails for stairs	Oct. 23, 1847	XIV.
5053	Brown, Reed B	Sawing machines, cross-cut	April 10, 1847	XIV.
5309	Bryent, Walter	Furnaces, hot-air	Sept. 25, 1847	V.
5166	Buell, Abel B	Harness buckles	June 19, 1847	XVI.
5343	Buffum, Arnold and David	Engines, rotary	Oct. 30, 1847	VI.
1595	Bulkley, Ralph	Life-preserver	May 8, 1840	VII.
5197	Bullock, Jesse, jr., and Sewall Benson	Apples, machines for paring	July 24, 1847	XVII.
1890	Burden, Henry	Puddle balls, &c., rolling in manufacture of iron	Dec. 10, 1840	II.
5194	Bussey, William C	Cars, couplings for	July 17, 1847	X.
5163	Butterfield, George	Spark-arresters	June 19, 1847	VI.
5038	Byram, Noah C	Twine stands	Mar. 27, 1847	XXII.
5334	Caldwell, Andrew	Planing machines, cutter-heads for	Oct. 16, 1847	XIV.
5240	Calvert, Francis A	Burring machines, guard cylinders for	Aug. 14, 1847	III.
5198	Cannon, David, and H. S. Lucas	Bricks, composition for fire	July 24, 1847	XV.
5204	Cantelo, William J	Incubation, artificial	July 24, 1847	XXII.
5119	Carlisle, Charles	Rake, horse	May 15, 1847	I.
4915	Carter, Francis	Uterine, supporters	Jan. 1, 1847	XX.
5097	Cate, Ebenezer	Window-blinds	May 1, 1847	IX.
5108	Cate, Ebenezer	Window-blinds	May 8, 1847	IX.
4979	Chalfant, Reuben	Corn shellers	Feb. 27, 1847	XIII.
5393	Chamberlin, E K	Clubfoot, apparatus for	Dec. 11, 1847	XX.
5057	Chambers, Benjamin, assignor to Joanna Chambers	Padlocks	April 10, 1847	II.
5155	Chambers, Benjamin	Engraving bank notes	June 12, 1847	XVIII.
5359	Chase, S. L	Locks and keys, combination	Nov. 6, 1847	II.
5328	Cheney, Frank	Thread, machinery for doubling, twisting, and reeling	Oct. 9, 1847	III.
4985	Chevet, A. M. F	Sugar, manufacture of	Feb. 27, 1847	IV.
5276	Chevet, A. M. F	Sugar-making	Sept. 4, 1847	IV.
4969	Church, D. A., L. H. Obert, and W. W. & O. F. Willoughby.	Threshing machine	Feb. 13, 1847	I.
5228	Church, D. A., L. H. Obert, and W. W. & O. F. Willoughby.	Harvesting machines	Aug. 7, 1847	I.

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Date.	Class.
5039	Clark, John	Steam-engine	Mar. 27, 1847	VI.
6446	Coad, Richard, assignor to Samuel G. Fisher	Combustion of fuel	May 8, 1849; antedated Nov. 25, '47.	V.
4948	Coburn, Moses	Piano-fortes, combining metallic reeds with	Feb. 1, 1847	XVIII.
5394	Cochran, John W	Sawing warped and curved surfaces, mills for	Dec. 11, 1847	XIV.
5096	Colby, Hall	Compasses, mariner's	May 1, 1847	VIII.
5318	Collins, Richard	Looms	Oct. 2, 1847	III.
5156	Collyer, Peter	Fruit-gatherers	June 12, 1847	I.
5376	Commings, Robert	Bog-cutters	Nov. 20, 1847	I.
5184	Conger, James B	Water wheels	July 10, 1847	XI.
4974	Conklin, James H	Stove, cooking	Feb. 20, 1847	V.
4980	Conklin, James H	Ploughs	Feb. 27, 1847	I.
5131	Cooke, William S	Iron ores, reduction of	May 29, 1847	II.
5191	Cornell, William E., and C. W. Brown	Gearing for connecting feed and pressure rollers	July 17, 1847	XIII.
5310	Coston, Benjamin F	Gas, apparatus for the manufacture of	July 26, 1847	IV.
5145	Cowling, Willis W	Ice, machinery for raising, from ponds, &c	June 5, 1847	XXII.
5125	Crafts, Ashley	Stove, cooking	May 22, 1847	V.
5237	Craggs, Richard, and O. Reynolds	Planting machines	Aug. 14, 1847	I.
1973	Crane, Aaron D	Clocks	Feb. 11, 1841; antedated Dec. 22, '40.	VIII.
5356	Creutzfeldt, William	Chimney caps	Nov. 6, 1847	V.
5340	Crichton, Winfield	Plough, cotton thinning	Oct. 23, 1847	I.
4925	Crossett, Isaac	Staves, knives for cutting	Jan. 13, 1847	XIV.
5409	Crosse, Andrew	Liquids, purifying, by galvanism	Jan. 1848; antedated Mar. 2, '47.	IV.
5114	Culver, David	Furnaces, air-heating	May 15, 1847	V.
4997	Cumberland, John	Planing and reducing boards, machines for	Mar. 6, 1847	XIV.
5222	Cundell, William	Burring machines, wool	Aug. 7, 1847	III.
5385	Curnutt, Reuben	Rods, pitmans, &c., connecting	Dec. 4, 1847	VI.
5190	Curtis, Philo C	Steam-engine, rotary	July 10, 1847	VI.
5163	Cutting, James A., and George Butterfield	Spark-arresters	June 19, 1847	VI.
1813	Daniels, Reuben	Cloth, &c., machine for reducing worn-out	Oct. 10, 1840	III.
5192	Davis, W. M	Gear changing	July 17, 1847	XIII.
4996	Davy, John T	Stoves, coal	Mar. 6, 1847	V.
5324	Davy, John T	Stoves, cooking	Oct. 9, 1847	V.
5065	Dezen, Francis	Hat brims, apparatus for forming	April 17, 1847	XXI.
5067	Devall, Augustus	Presses, cotton	April 17, 1847	XIII.
5378	Dodge, George H	Spinning machinery	Nov. 27, 1847; antedated Sept 27, '47.	III.
5283	Donlevy, John	Presses, lithographic	Sept. 11, 1847; antedated Mar. 11, '47.	XII.
5050	Dozier, Edmund L	Threshing machines	April 3, 1847	I.
5174	Dunlap, John	Harvesting machines	June 26, 1847	I.
5539	Durant, Charles F	Gutta percha and caoutchouc, dissolving and softening	April 25, 1848; antedated Oct. 25, '47.	IV.
4960	Eames, Albert	Cannon, wrought iron	Feb. 5, 1847	XIX.
5024	Eddy, Wilson, assignor to S. Morris	Cylinders, steam	Mar. 20, 1847	VI.
5259	Elgar, John	Cutting corn fodder, machines for	June 19, 1847	I.
5272	Ellsworth, H. G	Carding machines, feed rollers for	Sept. 4, 1847	III.
5089	Ely, William F	India-rubber, preparing	April 17, 1847	IV.
5182	Emerson, Frederick	Ventilators	July 3, 1847	XI.

5183	Emerson, Frederick	Ventilators	July 3, 1847	XI.
5165	England, Lewis C	Tanning morocco	June 19, 1847	XVI.
5085	Evans, John, and J. H. Thompson	Gearing, changeable	April 24, 1847	XIII.
5252	Evarts, James M	Fasteners, window blind	Aug. 21, 1847	II.
5219	Everett, Horace	Propellers for vessels	Aug. 7, 1847	VII.
5342	Fabo, S., and A. H. Lochman	Bedstead fastening	Oct. 30, 1847	XVII.
4990	Fairchild, R. & S	Chisels	Feb. 27, 1847	XIV.
1692	Fairman, Simon	Lathe, chuck for	July 18, 1840	XIV.
5046	Farnam, D. L	Pumps; valves and valve boxes for	April 3, 1847	XI.
5035	Fellows, John H	Furnace grate bars	Mar. 27, 1847	V.
5268	Fellows, John H	Vessels, construction of	Sept. 4, 1847	VII.
5370	Fernald, H. B	Alarms for steam boilers	Nov. 13, 1847	VI.
5266	Fisher, Amory	Mills for grinding corn in the cob	Aug. 28, 1847	XIII.
5161	Fleischman, Charles L	Cotton wadding	June 19, 1847	III.
5275	Fleischman, Charles L	Mattresses, cushions, &c., making	Sept. 4, 1847	XVII.
5034	Forwood, Alfred W	Carriages	Mar. 27, 1847	X.
4916	Foster, Clinton	Harvesting machines	Jan. 1, 1847	I.
5039	Galvani, C., assignor to John Clark	Steam-engine, rotary	Mar. 27, 1847	VI.
5302	Gardiner, Charles	Presses, cotton	Oct. 16, 1847	XII.
5097	Gardiner, P. G	Presses, steam	Mar. 13, 1847; antedated Jan. 13, '47	XII.
5098	Gardiner, P. G	Wheels, railroad car	May 1, 1847	X.
5070	Gardiner, P. G	Saw mills	April 17, 1847	XIV.
4919	Garmo, W. De, assignor to W. S. Ellison	Whiffletrees, attaching traces to	Jan. 1, 1847	X.
5297	Gassaway, Samuel F	Bridges	Sept. 18, 1847	IX.
5052	Gatchel, Joshua L	Hydraulic ram	April 10, 1847	XI.
5073	Gatling, Richard J	Hemp brakes	April 17, 1847	III.
5130	Gatling, Richard J	Ploughs, shovel	May 29, 1847	I.
5316	Gibbs, Lucius H	Fire-arms	Oct. 2, 1847	XIX.
5123	Gibson, Samuel	Spark-arresters	May 22, 1847	VI.
5196	Gilbert, Charles J., and G. Gay	India-rubber fabrics	July 17, 1847	IV.
5202	Gilbert, Timothy	Piano-fortes, metallic frames for	July 24, 1847	XVIII.
5216	Gilbert, Timothy	Piano-forte actions	Aug. 7, 1847	XVIII.
5000	Gold, Stephen J	Propellers for vessels	Mar. 6, 1847	VII.
5026	Grame, Henry H	Valves, cut-off	Mar. 20, 1847	VI.
4950	Grannis, Charles W	Ovens, heating elevated	Feb. 1, 1847	V.
5178	Gregg, Mahlon	Engines, rotary	June 26, 1847	VI.
5259	Gregory, Alva	Tires, mode of heating wheel	Aug. 28, 1847	X.
5017	Greig, John S	Pendulums, self-adjusting	Mar. 13, 1847	VIII.
4967	Grenell, Thomas	Railroads, fastening rails on	Feb. 13, 1847	IX.
5396	Grimsley, Thornton	Saddle-trees, dragoon	Dec. 11, 1847	XVI.
5375	Haggart, James	Fasteners, window sash	Nov. 20, 1847	II.
5128	Hall, Alfred	Brick presses	May 22, 1847	XV.
5381	Hall, Elias	Press, self-acting cheese	Dec. 4, 1847	XII.
5355	Hall, Joseph	Washing machines	Nov. 6, 1847	XVII.
5304	Halvorson, Halvor, assignor to Timothy Earle	Hides, preparing raw	Sept. 25, 1847	XVI.
4987	Halvorson, Halvor, assignor to Timothy Earle	Trusses	Feb. 27, 1847	XX.
4934	Hammond, Charles	Hammers	Jan. 19, 1847	XIV.
5360	Harbuck, Frederick	Wheels, car	Nov. 6, 1847	X.
5361	Harbuck, Frederick	Wheels, car	Nov. 6, 1847	X.
4970	Harmon, J. W., assignor to H. B. Dunham	Bleaching rosin	Feb. 20, 1847	IV.
5257	Harris, E. M., and J. Cleghorn	Cotton thinners	Aug. 21, 1847	I.
5043	Harris, Walter	Channels, finding the direction of streams for deepening	Mar. 27, 1847	IX.
5374	Harrison, Edward	Mills for grinding	Nov. 20, 1847	XIII.

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Date.	Class.
5315	Harrison, John	Composition for door knobs, &c	Oct. 2, 1847	IV.
5110	Hartwell, Samuel E., and W. M. & De G. Fowler	Cigars, machinery for making	May 8, 1847	XXII.
5021	Haworth, James	Looms	Mar. 20, 1847	III.
5177	Haworth, Wade	Collars, machine for stuffing horse	June 26, 1847	XVI.
4924	Heaton, Alonzo	Metal, machinery for raising sheet	Jan. 13, 1847	II.
5354	Hemming, Richard	Cars, couplings for	Nov. 6, 1847	X.
5151	Hershey, Isaac S	Currying leather, composition for	June 12, 1847	XVI.
4944	Heygel, Joseph	Smut machines	Jan. 26, 1847	XIII.
5118	Hickok, William	Furnaces, air-heating	May 15, 1847	V
5079	Hicks, L. E., assignor to J. S. Norton	Button machinery	April 24, 1847	XXI.
5185	Hill, William W	Blocks, ships	July 10, 1847	VII.
5164	Hill, U. C. & C. F	Musical instruments	June 19, 1847	XVIII.
4943	Hillis, William D	Harness buckles	Jan. 26, 1847	XVI.
5377	Hobbs, Richard H	Bathing, heating water for	Nov. 27, 1847	XX.
5188	Hoe, Richard M	Printing presses	July 10, 1847	XVIII.
5200	Hoe, Richard M	Printing presses	July 24, 1847	XVIII.
5212	Hoe, Richard M	Printing presses, inking apparatus for	July 31, 1847	XVIII.
4978	Hoffman, L. G	Incubation, artificial	Feb. 20, 1847	XXII.
5286	Hoit, Moses F	Pen, fountain	Sept 11, 1847	XVIII.
5010	Holcomb, F. P	Hemp brakes	Mar. 13, 1847	III.
4918	Holmes, Ira	Wheels, carriage	Jan. 1, 1847	X.
5033	Holmes, Lawrence	Loom, jacquard	Mar. 27, 1847	III.
5359	Hood, John W	Abdominal supporters	Dec. 11, 1847	XX.
4961	Horner, Elijah	Oil, obtaining, from flaxseed	Feb. 9, 1847	IV.
5231	Horst, Charles	Chair, combining, rocking, and fan	Aug. 7, 1847; antedated Feb. 9, '47.	XVII.
5293	Horton, George H., and L. Armstrong	Hinges, machinery for manufacturing	Sept. 11, 1847	II.
5398	Hovey, William	Knives, machinery for grinding, which have warped surfaces	Dec. 18, 1847	II.
5160	Hoyt, Joel L	Harness, shaft tugs for	June 19, 1847	XVI.
5407	Hubbard, Thomas J	Fences	Dec. 38, 1847	IX.
4927	Hunt, Walter	Pens, fountain	Jan. 13, 1847	XVIII.
6663	Hunt, Walter, assignor to George A. Arrowsmith	Combined piston breech, and firing cock repeating gun	Aug. 21, 1849; antedated Dec. 10, '47.	XXI.
5015	Ingalls, Moses	Reciprocating and lateral motions, mode of producing	Mar. 13, 1847	XIV.
4936	Ingle, Joseph W	Mortising machine	Jan. 21, 1847	XIV.
4926	Ingram, James, and James Stewart	Water-closets	Jan. 13, 1847	XXII.
5205	Jenkins, Henry	Wire grating, weaving	Mar. 6, 1847	II.
4935	Jennings, Isaiah	Lamps	Jan. 19, 1847	V.
5246	Jennison, W. H., assignor to William Kumbel	Riveting leather bands	Aug. 14, 1847	II.
5236	Johnson, Job	Fish hooks	Aug. 21, 1847	XXII.
5011	Johnson, Jonathan	Boring machines	Mar. 13, 1847	XIV.
4943	Jones, Alfred C	Presses, steam	Jan. 26, 1847	XII.
5301	Jones, Alfred C	Metals, portable machinery for planing	Sept. 18, 1847	II.
5263	Jones, John	Curry combs	Aug 28, 1847	II.
5279	Judd, Morton	Fasteners, sash	Sept. 4, 1847	II.
5066	Judd, Oliver	Hinges for doors, &c	April 17, 1847	II.
5002	Kane, G. K	Wheels, car	Mar. 6, 1847	X.

5287	Kelsey, John B	Chimneys, construction of	Sept. 11, 1847	V.
5101	Ketchum, G	Pumps for raising water	Dec. 18, 1847	XI.
4949	King, H. H	Baths, shower	Feb. 1, 1847	XX.
5397	Kingsbury, C. B. & J	Presses, self-acting cheese	Dec. 18, 1847	XII.
5225	Kinsley, Rodolphus	Latches	Aug. 7, 1847	II.
5045	Kirk, Charles	Clocks	April 3, 1847	VIII.
5040	Kirk, Lewis	Saw, steam cross-cut	Mar. 27, 1847	XIV.
5044	Kirk, Lewis	Trip hammers, steam	April 3, 1847	II.
5325	Kirk, Lewis	Pipes, jointed, for steam, &c	Oct. 9, 1847	VI.
5333	Kirk, Lewis, and John Dodsworth	Compounds, lubricating	Oct. 16, 1847	IV.
4968	Knapp, Cyrus	Spiral elevators	Feb. 13, 1847	XX.
5193	Knight, Ebenezer	Vessels, ventilating the timbers of	July 17, 1847	VII.
1851	Krupp, Alfred	Cannon, improvement in	Nov. 27, 1855; antedated Dec. 16, '47.	XIX.
5059	Kunsman, Jacob	Saw mills, feeding	April 10, 1847	XIV.
5230	Lamb, William	Water wheels	Aug. 7, 1847	XI.
5100	Latourandais, J. H	Bedstead for invalids	May 1, 1847	XVII.
6301	Laubereau, Francis Joseph	Engine, air	April 10, 1849; antedated Oct. 30, '47.	XI.
5221	Laughlin, John	Whiffletrees	Aug. 7, 1847	X.
5150	Leavens, Jesse	Sash machinery	June 12, 1847	IX.
5294	Levett, M., and H. Davis	Teeth, coloring the plates of artificial	Sept. 18, 1847	XX.
4965	Lewis, John, assignor to E. C. Read and B. M. Sherman	Pneumatic springs	Feb. 10, 1847	XI.
4939	Lewis, Samuel H	Filtering stop-cock	Jan. 26, 1847	XI.
5169	Lewis, William	Straw-cutters	June 19, 1847	I.
5111	Leypoldt, Frederick	Scarificators	May 15, 1847	XX.
5063	Livermore, Benjamin, and N. F. English	Boot lasting, machines for	April 17, 1847	XVI.
4989	Livingston, Robert M	Cotton, machinery for cleaning	Mar. 6, 1847	III.
5366	Long, Stephen H	Bridges, composite	Nov. 13, 1847	IX.
5086	Loud, Thomas	Piano-forte actions	April 24, 1847	XVIII.
5330	Luxton, Charles	Swings	Oct. 16, 1847	XX.
4951	Lyon, Lemuel	Hat bodies, manufacture of	Feb. 5, 1847	XXI.
5345	Mackrell, William H	Knobs, fastening door	Oct. 30, 1847	II.
5396	Macgregor, James, jr	Stoves, cooking	Sept. 18, 1847	V.
5311	MacLean, Hugh	Drawing heads, regulating the spread of	Oct. 23, 1847	III.
5302	Magoun, Joseph, assignor to New England Glass Company	Glass, moulding and pressing	Sept. 25, 1847	XV.
5303	Magoun, Joseph, assignor to New England Glass Company	Glass, moulds for pressing	Sept. 25, 1847	XV.
5109	Mansfield, Warren, and H. L. Thistle	Linch-pins and washers	May 8, 1847	X.
5095	Many, William V	Wheels, cast-iron car	May 1, 1847	X.
5014	Marll, John S., and W. J. Ogden	Stoves	Mar. 13, 1847	V.
5004	Martin, Norris L	Turpentine, refining	Mar. 13, 1847	IV.
5274	Mason, George L	Wool and cotton, preparing for carding	Sept. 4, 1847	III.
1920	Mathews, David	Spark-arrester	Dec. 31, 1840	VI.
5572	Matthewson, E. C	Doors, weather strips for	May 16, 1848; antedated Nov. 16, '47.	IX.
4998	Maxon, John	Carriage bodies, hanging	Mar. 6, 1847	X.
5327	McAdams, William	Book covers, ornamenting	Oct. 9, 1847	XVIII.
5405	McCarthy, E. J	Paddle wheels	Dec. 28, 1847	VII.
1675	McCarthy, Fones	Gin, cotton	July 3, 1840	III.
5074	McConnell, Joseph	Mill spindles, drivers for	April 17, 1847	XIII.
5173	McCune, John	Tennons, cutting on the ends of spokes	June 26, 1847	XIV.
6329	McEvoy, Henry, assignor to W. Benjamin, jr	Hooks and eyes	April 17, 1849; antedated May 27, '47.	XXI.
5214	McLaughlin, Thomas G	Engines, hydraulic	Aug. 7, 1847	XI.
5624	McLean, William S	Fastenings for window sashes	June 13, 1848; antedated Dec. 13, '47.	II.
5235	Mead, Mary A., executrix of James Mead, deceased	Pressing and packing cotton	Aug. 14, 1847	XII.
5206	Merrill, E. H. & C. J	Bottles, &c., making of clay	July 31, 1847	XV.

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Date.	Class.
5313	Miller, William	Fences for preventing injury by flood	Oct. 2, 1847	IX.
5209	Miner, Leman C.	Tuyeres	July 31, 1847	II.
4966	Molinier, T.	Barrel machinery	Feb. 10, 1847	XIV.
4921	Montgomery, James	Spark-arresters	Jan. 7, 1847	VI.
5224	Montgomery, James	Propellers, screw	Aug. 7, 1847	VII.
1714	Montgomery, Richard, and Lewis W. Harris,	Bark mill, breaking and grinding	Aug. 12, 1840	XIII.
5089	Morehouse, Bethuel, and William W. Willard	Stoves, cooking	May 1, 1847	V.
5116	Morgan, Amos	Drilling machines	May 15, 1847	IX.
1647	Morse, Samuel F. B	Signals by electro magnetism	June 20, 1840	IX.
5365	Morton, W. T. G., and A. A. Gould	Inhaling ether, &c., apparatus for	Nov. 13, 1847	XX.
5317	Mott, Jordan L.	Chairs, cast iron	Oct. 2, 1847	XVII.
1873	Mott, Jordan L.	Caldron and furnace combined	Dec. 1, 1840	V.
5117	Moyer, J. W.	Bedstead fastenings	May 15, 1847	XVII.
5055	Myers, Eckert	Carriages, detaching horses from	April 10, 1847	X.
5140	Napier, James	Ores, process of reducing copper	June 5, 1847	II.
5387	Nash, Harvy B.	Bedstead fastenings	Dec. 4, 1847	XVII.
5036	Newton, Alfred, L. B. Smith, and E. Sandford	Augers	Mar. 27, 1847	XIV.
5349	Newton, Dennis	Washing machines	Oct. 30, 1847	XVII.
5379	Nield, James	Looms for weaving	Nov. 27, 1847	III.
5141	North, Henry S.	Fire-arms	June 5, 1847	XIX.
5280	Obenchain, M. W.	Spinning, machinery for	Sept. 11, 1847	III.
5195	Odell, Alanson T.	Cultivators	July 17, 1847	I.
5373	Olcott, Adrian	Mattresses, machinery for preparing husks for	Nov. 20, 1847	XVII.
5027	Old, James	Boxes for journals	Mar. 20, 1847	XIII.
5071	Page, George	Pumps, &c., pistons for	April 17, 1847	XI.
5218	Page, George	Ploughs	Aug. 7, 1847	I.
5101	Pagin, John	Discharging grains, &c., from vessels, apparatus for	May 8, 1847	XXII.
5201	Parker, Emanuel	Water wheels	July 24, 1847	XI.
6962	Parkes, Alexander	Ores, reduction of	Jan. 30, 1849; antedated Nov. 18, '47	II.
5282	Parkhurst, Ziba	Burring machines	Sept. 11, 1847; antedated Mar. 11, '47	III.
4917	Parkins, Nathan, assignor to J. J. Parkins	Excavators, for roads, &c.	Jan. 1, 1847	IX.
5205	Parsey, Arthur	Engines, condensed air	July 31, 1847	XI.
5223	Parsons, Horace	Water wheels	Aug. 7, 1847	XI.
5175	Paterson, John	Cultivators	April 17, 1847	I.
4952	Patterson, A. W.	Trusses	Feb. 5, 1847	XX.
5310	Peake, Henry T.	Valves, operating cut-off	Sept. 25, 1847	VI.
5314	Pease, Daniel, jr.	Smut machines	Oct. 2, 1847	XIII.
5243	Pease, Julius A.	Door-plates, casting	Aug. 14, 1847	II.
5058	Peck, Thomas	Doors, devices for closing	April 10, 1847	II.
5124	Peck, Thomas	Door springs	May 22, 1847	II.
5298	Peirce, Joseph	Mills, grinding	Sept. 18, 1847	XIII.
5255	Pendleton, Stanton	Fish hooks	Aug. 21, 1847	XXII.
5277	Philip, George A.	Grates, stove	Sept. 4, 1847	V.
5218	Pierce, Samuel	Ranges, cooking	Aug. 28, 1847	V.
5134	Pinney, A. H.	Staves, machinery for jointing	May 29, 1847	XIV.

5392	Pitcher, Leman B.	Regulators for machinery	Dec. 11, 1847	XIII.
5382	Pollock, George	Furnaces, registers for	Dec. 4, 1847	V.
4959	Pope, Charles, and K. Frazer	Saddles, harness	Feb. 5, 1847	XVI.
5088	Potter, Lorenzo	Presses for cotton, hay, &c.	April 24, 1847	XII.
5391	Potter, Nathaniel F.	Grain, kilns for drying	Dec. 11, 1847	I.
5307	Pott-, Ezekiel	Cutting and grinding corn stalks, machine for	July 31, 1847	I.
5170	Preston, C. H.	Bricks, forming	July 19, 1847	XV.
4928	Prouty, Lorenzo, executor of D. Prouty, deceased	Ploughs	Jan. 13, 1847	I.
4977	Ralston, Andrew	Railroad switches, operating	Feb. 20, 1847	IX.
5077	Ransom, Franklin, and D. L. Farnham	Engines, fire	April 17, 1847	XI.
5364	Read, Philip P.	Shoe, horse, machine	Nov. 13, 1847	II.
5402	Rector, Jno. H.	Rifles, nuzzles for	Dec. 18, 1847	XIX.
4940	Reed, Jesse	Vessels, steering apparatus for	Jan. 26, 1847	VII.
5242	Reed, Jesse	Steering apparatus	Aug. 14, 1847	VII.
4964	Reeder, Ralph	Compasses, mariners' time	Feb. 9, 1847	VIII.
4922	Remington, Jno. R.	Coffee-roasters	Jan. 7, 1847	XVII.
4929	Remington, Jno. R., and Robert Beale	Slitting boards, &c.	Jan. 15, 1847	XIV.
5211	Reynolds, Oliver	Bee hives	July 31, 1847	I.
5241	Rice, Ebenezer M.	Shafts, coupling line	Aug. 14, 1847	XIII.
5133	Riley, George	Distilling	May 29, 1847	IV.
5251	Roberts, Chas. W., and Jno. Hambly	Dyewoods, machinery for rasping	Aug. 21, 1847	XXII.
5226	Robertson, John	Lead, machinery for making sheet	Aug. 7, 1847	II.
4945	Roebling, Jno. A.	Bridge-, apparatus for passing suspension wires across rivers, &c., for	Jan. 26, 1847	IX.
4946	Rowe, James	Wheels, carriage	Jan. 26, 1847	X.
1560	Rowe, James	Mill, crushing hard substances	April 24, 1840	XIII.
5147	Rowland, Joseph	Boats, fenders for canal	June 5, 1847	VII.
5107	Royce, John S.	Carriages	May 8, 1847; antedated Feb. 5, '47.	X.
5115	Russell, Albert, and E. R. Walker	Window glasses, ship's	May 15, 1847	XII.
4956	Sampson, Frederick D.	Straw-cutters	Feb. 5, 1847	I.
5018	Sargent, Chas. G.	Wool, machinery for combing	Mar. 13, 1847	III.
5321	Savage, John Y.	Locks, chronometric	Oct. 9, 1847	II.
5386	Sawyer, Nathan	Brick presses	Dec. 4, 1847	XV.
1623	Sawyer, Samuel	Corks, cutting	June 10, 1840	XIV.
6900	Schoffern, John	Sugar, manufacture of	Nov. 27, 1849; antedated Dec. 8, '47.	IV.
5844	Schofield, J., assignor to J. Betts	Supporters, uterine	Oct. 10, 1848; antedated May 19, '47	XX.
5213	Seabury, Jacob, assignor to Daniel Griffin	Furnaces, boiler	July 31, 1847	V.
5367	Sellers, George E.	Planes, machinery for ascending and descending inclined	Nov. 13, 1847	IX.
5082	Selpho, William	Hat tips, machinery for pulling out	April 24, 1847	XXI.
5093	Severance, Augustus N.	Cheese shelves	May 1, 1847	I.
5311	Sewell, Thomas	Lamps, lard	Oct. 2, 1847	V.
5158	Sexton, Samuel B.	Stoves, air-tight	June 19, 1847	V.
5139	Shelabarger, B. F.	Candles, making	June 5, 1847	IV.
5138	Shelabarger, B. F.	Skates	June 5, 1847	XXII.
4941	Sheldon, Job	Planing machines	Jan. 26, 1847	XIV.
5351	Shepard, Charles J.	Stoves, boiler plates of cooking	Oct. 30, 1847	V.
5162	Shermer, Anthony	Vessels, steering apparatus for	June 19, 1847	VII.
5244	Shive, Simon C.	Boot patterns	Aug. 14, 1847	XVI.
5265	Shreve, Samuel	Stoves, cooking	Aug. 28, 1847	V.
5269	Shugert, John	Soap, manufacture of	Sept. 4, 1847; antedated Mar. 4, '47.	IV.
5312	Simpson, Wm., and Horace Adams	Water wheels	Oct. 2, 1847	XI.
4923	Simril, Miles G.	Tailors' measurers	Jan. 7, 1847	XXI.
5076	Sizer, Geo. W., and Henry	Wheels, car	April 17, 1847	X.
5084	Skiff, Frederick	Coffins	April 20, 1847	XXII.

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Date.	Class.
5167	Smith, Addison	Cloth, &c , measuring	June 19, 1847	III.
5372	Smith, C. A.	Percolating apparatus	Nov. 20, 1847	IV.
5113	Smith, Garrettson, and Henry Brown	Stoves, flue-plates of	May 15, 1847	V.
5217	Smith, Jonathan	Withes, machinery for twisting	Aug. 7, 1847	XXII.
5083	Smith, Lester	Tin ware, setting down machines for the manufacture of	April 24, 1847	II.
5135	Smith, Riley	Presses, cotton	May 29, 1847	XII.
5320	Smith, R. F.	Turpentine, distilling	Oct. 2, 1847	IV.
1753	Spafford, George	Rags, boiling and washing	Sept. 2, 1840	III.
4989	Speed, John	Carriage bodies, hanging	Feb. 27, 1847	X.
5290	Spofford, Moses	Hoeing land, machines for	Sept. 11, 1847	I.
5238	Stafford, James R	Grain, flour, &c., apparatus for drying	Aug. 14, 1847	I.
5488	Stafford, James R	Stoves, cooking	Mar. 28, 1848; antedated Sept. 28, '47	V.
5291	Stafford, John M	Rakes, horse	Sept. 11, 1847	I.
4984	Stanton, Henry	Carriages, &c., buoyant	Feb. 27, 1847	X.
5234	Stanton, Henry	Lighters for vessels	Aug. 14, 1847	VII.
5510	Stebbins, Lucius	Brakes for cars, operating	April 18, 1848; antedated Oct. 18, '47.	X.
1510	Stebbins, Lucius	Coloring maps, mode of	Mar. 12, 1840	XVIII.
5061	Stevens, Richard F	Doors, devices for closing	April 10, 1847	II.
5078	Stewart, James	Fastening window blinds	April 24, 1847	II.
5091	Stewart, Matthew	Roofing	May 1, 1847	IX.
5022	Stillman, Alfred	Boilers, apparatus for indicating the height of water in, by the use of fusible alloy.	Mar. 20, 1847	VI.
5220	Stone, Chester	Presses, self-acting cheese	Aug. 7, 1847	XII.
5264	Stoner, Christian	Brakes, apparatus for operating carriage	Aug. 28, 1847	X.
5233	Story, Robert, and Thos. Hopper	Shoes, India-rubber	Aug. 7, 1847	XVI.
5337	Strange, Joseph W	Roving, machinery for laying in cans	Oct. 23, 1847	III.
5347	Streeter, Samuel	Railroad tracks, machinery for cleaning snow and ice from	Oct. 30, 1847	IX.
5037	Strode, Joseph C	Hydraulic ram	Mar. 27, 1847	XI.
5181	Stuart, George	Teeth, springs for artificial	July 3, 1847	XX.
4988	Sullivan, Jonathan, assignor to R. K. Smith	Gold, separating, from impurities	Feb. 27, 1847	II.
5400	Swan, Lansing B	Telegraphs, galvanic batteries for	Dec. 18, 1847	VIII.
4933	Swift, Lewis	Rake, horse	Jan. 19, 1847	I.
5046	Taber, Wm. D	Pumps, arranging valves, &c., for	April 3, 1847	XI.
5019	Tassie, Madeline	Shirt bosoms	Mar. 13, 1847	XXI.
4962	Taylor, A. B., and H. A. Burr	Hat bodies, machinery for making	Feb. 9, 1847	XXI.
5029	Thatcher, George H	Stoves, foot	Mar. 20, 1847	V.
5154	Thatcher, J. M	Stoves, cooking	June 12, 1847	V.
5271	Thomas, James	India-rubber, preparing	Sept. 4, 1846	IV.
5042	Thomas, Cheanan W	Ditching machine	Mar. 27, 1847	IX.
5724	Thompson, Henry G	Engines, rotary steam	Aug. 22, 1848; antedated Mar. 10, '47.	VI.
5383	Tilghman, Richard A	Salts, decomposing alkaline and other	Dec. 4, 1847; antedated Feb. 1, '47	IV.
5384	Tilghman, Richard A.	Salts, decomposing potash, feldspar, for obtaining certain	Dec. 4, 1847; antedated Feb. 1, '47.	IV.
5152	Tomlinson, Daniel, and H. S. Hopkins	Fire-alarms	June 12, 1847	V.
5346	Townsend, Edward S	Wire rope, machinery for the manufacture of	Oct. 30, 1847	II.
5003	Traver, Philip C	Cork, machinery for cutting	Mar. 6, 1847	XXII.

5388	Tuers, Joseph	Boats for sailing	Dec. 4, 1847	VII.
5180	Tull, James, and Sept. Morris	Boxes for railroad car axles	July 3, 1847; antedated Jan. 3, '47.	X.
5273	Tuttle, George W	Exercising children, machines for	Sept. 4, 1847	XX.
5329	Underwood, Henry	Leather, lap cutting and levelling	Oct. 16, 1847	XVI.
5001	Urmy, Jesse	Horse powers	Mar. 6, 1847	XIII.
5187	Ustic, Stephen	Brick moulding machine	July 10, 1847	XV.
5016	Van Brocklin, John	Ploughs, clevis for	Mar. 13, 1847	I.
4971	Van Loan, Wm. W	Fire-escape	Feb. 20, 1847	XXII.
5247	Van Riper, Abraham	Baskets	Aug. 21, 1847	XXII.
5319	Van Riper, A. & G	Baskets, splint machines for	Oct. 2, 1847	XXII.
6929	Verdat, P. du Trembley	Engines, vapor condensers and stuffing boxes of	Dec. 4, 1819; antedated Mar. 11, '47.	VI.
5023	Vickerstaff, Joseph	Looms, stocking	Mar. 20, 1847	III.
5339	Vogel, Kasimir	Weavers' harness, machinery for making	Oct. 23, 1847	III.
5293	Von Schmidt, A. W. & J. H.	Pumps, centrifugal	July 24, 1847	XI.
5081	Wade, Robert M.	Spark-arresters	April 24, 1847	VI.
5262	Walker, Charles	Mills for grinding mustard, &c	Aug. 28, 1847	XIII.
5168	Walker, James	Ploughs	June 19, 1847	I.
5149	Walker, Richard	Files, machinery for cutting	June 12, 1847	II.
5094	Walter, Elihu	Stoves, cooking	May 1, 1847	V.
5121	Walter, Lorenzo D., assignor to J. & D. S. Kellogg	Drills for dentists	May 15, 1847	XX.
5292	Warren, James, jr	Lemonade, preparing materials for	Sept. 11, 1847	IV.
5092	Waterman, Nathaniel	Gridirons	May 1, 1847	XVII.
5404	Watson, John	Filters, cleaning	Dec. 28, 1847; antedated Apl. 27, '47.	XI.
4975	Watt, Thomas	Tailors' measures	Feb. 20, 1847	XXI.
4953	Webber, E., and N. O. Mitchell	Treenails, machinery for turning	Feb. 5, 1847	VII.
5146	Wesson, Edwin	Fire-arms	June 5, 1847	XIX.
5338	Wheeler, William	Bolts for doors	Oct. 23, 1847	II.
1839	Whipple, Milton D.	Wool, cleaning from burrs, &c., and ginning cotton	Oct. 28, 1840	III.
5258	Whiteside, P	Stoves, cooking	Aug. 28, 1847	V.
5126	Whitney, Asa	Wheels, cast-iron car	May 22, 1847	X.
5127	Whitney, Asa	Wheels, cast iron car	May 22, 1847	X.
5289	Whitney, A. W	Iron, &c., machinery for working sheet	Dec. 11, 1847	II.
5432	Whitworth, Joseph	Knitting, machinery for	Feb. 1, 1848; antedated July 1, '47.	III.
5358	Wightman, P. T., and H. Vaughn	Drilling rock, machinery for	Nov. 6, 1847	IX.
5362	Wilson, Joseph B	Ice-cutters	Nov. 26, 1847	XXII.
5056	Winans, Ross	Steam, using exhaust, for increasing draught in smoke pipes	April 10, 1847	VI.
5175	Winans, Ross	Cars for transportation of coal, &c	June 26, 1847	X.
1868	Winans, Ross	Steam-engine locomotive regulating waste steam	Nov. 26, 1840	VI.
5369	Wind, John	Cotton-cleaners	Nov. 13, 1847	III.
5660	Winslow, John F., and John Snider	Puddlers balls, machinery for rolling	July 5, 1848; antedated Oct. 14, '47.	II.
5245	Wood, F. W	Rivets for leather bands	Aug. 14, 1847	II.
5064	Woodcroft, Bennett	Printing calico	April 17, 1847	XVIII.
4993	Woodman, E. G	Cloth, machinery for measuring and folding	Mar. 6, 1847	III.
5281	Woolson, Charles J	Cartiage bodies, hanging	Sept. 11, 1847	X.
5380	Wooster, Curtis	Gauges, used in finishing spiral hand rails	Dec. 4, 1847	XIV.
4972	Worthington, H. R., and W. H. Baker	Boilers, apparatus for gauging the heights of water in	Feb. 20, 1847	VI.
5122	Wratten, James E	Smut machines	May 15, 1847	XIII.
5041	Wright, Lemuel W	Paper, making	Mar. 27, 1847	III.
5062	Wright, Wendell	Window blinds, devices for opening and closing	April 10, 1847	II.
5353	Younger, Wm	Washing machines	Nov. 6, 1847	XVII.
5288	Zieber, Philip, John Hancock, and P. S. Devlan	Composition for lubricating machinery	Sept. 11, 1847	IV.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR DESIGNS HAVE EXPIRED DURING THE YEAR 1861.

No.	Patentee.	Design.	Date.
138	Albro, James, jr	Floor cloth	July 24, 1847.
103	Barry, Thomas, assignor to S. H. Ransom	Stoves	January 5, 1847.
104	Barry, Thomas, assignor to S. H. Ransom	Stoves	January 5, 1847.
154	Barry, Thomas, assignor to S. H. Ransom	Stoves	October 2, 1847.
137	Batchelor, Nathaniel	Clock frames	July 24, 1847.
125	Biggins, Henry, assignor to James L. Jackson	Grates, fire-place	June 5, 1847.
139	Booth, D. A	Buttons, ornamental	July 24, 1847.
115	Bowers, George P., and Joseph Pratt	Stoves	April 10, 1847.
143	Brownell, Asa C.	Stoves	August 14, 1847.
133	Burgess, John, assignor to Gilbert Geer	Stoves	July 3, 1847.
147	Bush, Roswell	Stoves	September 4, 1847.
148	Conklin, James H	Stoves	September 11, 1847.
108	Cresson, William P., Jacob Beesley and David Stuart, the last two assignors to the first.	Stoves	January 13, 1847.
117	Cresson, William P., S. H. Sailor, D. Stuart, and J. Beesley, the last three assignors to the first.	Stoves	April 17, 1847.
116	Cresson, William P., D. Stuart, J. Beesley, and L. A. Watson, the last three assignors to the first.	Stoves	April 17, 1847.
149	Gale, W., and Nathaniel Hayden	Spoons, forks, &c	September 11, 1847.
150	Gale, W., and Nathaniel Hayden	Spoons and forks	September 11, 1847.
119	Geer, Gilbert	Stoves	May 1, 1847.
158	Gibbs, Samuel W., assignor to J. C. Potts	Stoves	October 23, 1847.
160	Gibbs, Samuel W., assignor to A. Quackenboss	Stoves	November 27, 1847.
128	Gibney, Michael	Spoons and forks	June 19, 1847.
107	Goodhue, D. F., and C. Guild	Stoves	January 13, 1847.
161	Goodhue, D. F., and C. Guild	Stove plates	December 4, 1847.
155	Gordon, James G	Stoves	October 2, 1847.
156	Green, Jeremiah, assignor to Viall & Warren	Stoves	October 2, 1847.
159	Guild, Charles	Stoves	October 23, 1847.
122	Hampton, Adam	Grates, fire-place	May 15, 1847.
153	Heermans, Jacob	Stoves	October 2, 1847.
144	Hickok, William	Stoves	August 14, 1847.
121	Jackson, James L	Grates, fire-place	May 15, 1847.
123	Low, Peter	Stoves, cooking	May 22, 1847.
114	Moore, John C.	Spoon handles, &c	April 3, 1847.
124	Moore, John C.	Spoons	May 29, 1847.
162	Palmer, Lucius O., assignor to John F. Seymour	Stoves	December 18, 1847.
118	Penniman, Elijah P.	Stoves	April 17, 1847.
110	Penniman, E. P., assignor to Cheney, Hunter & Rowe	Stoves, cooking	February 10, 1847.
106	Ransom, Samuel H	Stoves	January 5, 1847.
141	Ransom, Samuel H.	Stoves	August 7, 1847.
113	Rathbone, John F	Stoves	March 20, 1847.
142	Rathbone, John F	Stoves	August 7, 1847.
157	Rathbone, John F	Stoves	October 23, 1847.
134	Resor, William	Stoves	July 17, 1847.
111	Ripley, Ezra, assignor to Johnson & Cox	Stoves	February 27, 1847.

131	Ripley, Ezra, assignor to Johnson & Cox	Stoves, parlor	July	3, 1847.
132	Ripley, Ezra, assignor to Johnson & Cox	Stoves, parlor	July	3, 1847.
151	Ripley, Ezra, assignor to Johnson & Cox	Stoves	September 11,	1847.
140	Robbins, Roland A	Stoves	August 7,	1847.
145	Shepard, Charles J	Stoves	August 28,	1847.
112	Simmons, Peter J., assignor to John F. Rathbone	Stoves	March 30,	1847.
146	Sizer, George W., and Henry	Stoves	September 4,	1847.
126	Smith, Elihu	Stoves	June 12,	1847.
130	Vose, Samuel D	Stoves, air-tight	June 26,	1847.
129	Wager, James	Stoves	June 26,	1847.
127	Wallace, Allen S., and J. S. Lithgow	Stoves	June 12,	1847.
120	Warnick, Charles W., and F. Leibrandt	Ovens, frame for	June 8,	1847.
152	Wight, George W	Woollens, printing on	May 8,	1847.
109	Wolf, Charles	Stoves	September 11,	1847.
135	Woolson, Charles J	Stoves	January 21,	1847.
136	Woolson, Charles J	Stoves	July 17,	1847.
	Woolson, Charles J	Stoves	July 17,	1847.

LIST OF PATENTEES OF INVENTIONS, DESIGNS, AND REISSUES GRANTED DURING THE YEAR 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2684	Abbey, D. B.	Horseheads, N. Y.	Corn planters	Nov. 12, 1861.
95	Abbott, S. C.	Zanesville, Ohio	Projectiles for ordnance	Jan. 15, 1861.
2869	Abbott, Levi	Boston, Mass	Gas regulators	Dec. 10, 1861.
	Abbott & Noble. (*See* Gibbs, S. W., assignor.)			
	Abendroth, W. P., A. & J. (*See* Mersereau, Jacob, assignor.)			
2322	Abright, C. F., and L. Burkhard	Pottsville, Pa	Removable carriage fronts	Sept. 24, 1861.
1668	Ackermann, Bernard	New York, N. Y	Lithographic power presses	July 2, 1861.
140	Ackerman, P. J.	Paterson, N. J	Combination of cooking stove and air-heating furnaces	Jan. 22, 1861.
756	Adams, Albert S., assignor to self and Joseph Watson	Chelsea, Mass	Printing presses	Mar. 19, 1861.
	Adams, Alfred, *et al.* (*See* Roberts, S., assignor.)			
1669	Adams, Augustus	Sandwich, Ill	Horse power	July 2, 1861.
1967	Adams, Augustus	Sandwich, Ill	Corn-shellers	Aug. 6, 1861.
1848	Adams, Calvin	Pittsburg, Pa	Meat-cutter	July 23, 1861.
1949	Adams, Federal C., and Jos. Peekover	Cincinnati, Ohio	Cooking stoves	July 30, 1861.
1165	Adams, Freeborn	Somerville, Mass	Casting copper cylinders	April 30, 1861.
2919	Adams, George B., assignor to self and James M. Stone	Cambridge, Mass	Supporting tents	Dec. 10, 1861.
96	Adams, James	New York, N. Y	Hydrometers	Jan. 15, 1861.
2324	Adams, James C.	Baltimore, Md	Apparatus for injecting meat with brine	Sept. 10, 1861.
2323	Adams, John	Monroe, Mich	Harrows	Sept. 24, 1861.
1548	Adams, John J.	New York, N. Y	Flexible back brush	June 18, 1861.
359	Adams, R. A.	Indianapolis, Ind	Grainers' tool	Feb. 12, 1861.
3039	Adams, Thomas W., assignor to self and C. H. Slicer	Baltimore, Md	Men's hats	Dec. 24, 1861.
	Adamson, William. (*See* Shinn, John, assignor.)			
1266	Adt, John	Waterbury, Conn	Latch bolts	May 14, 1861.
1601	Adt, John	Waterbury, Conn	Lock	June 25, 1861.
2465	Ahl, David	Newville, Pa	Surgical splints	Oct. 15, 1861.
282	Aiken, George C.	Worcester, Mass	Heel attachment for boots and shoes	Feb. 5, 1861.
283	Aiken, J. B.	New York, N. Y	Knitting machines	Feb. 5, 1861.
1670	Aiken, Walter	Franklin, N. H	Knitting machines	July 2, 1861.
517	Albaugh, George C.	Louisville, Ky	Manufacture of cow-bells	Feb. 26, 1861.
284	Albert, John	Philadelphia, Pa.	Turning pegs for violins, &c.	Feb. 5, 1861.
1166	Aldrich, George	Armada, Mich	Ladder	April 30, 1861.
1498	Aldridge, Hiram	Michigan City, Ind	Machines for threshing and separating grain	June 11, 1861.
	Alexander, Adin, and William J. Innis. (*See* Westland, Charles S., assignor.)			
1167	Alexander, Frederick W.	Baltimore, Md	Combination lock	April 30, 1861.
97	Alexander, J. T. D.	Maryenna, Texas	Cultivators	Jan. 15, 1861.
427	Alford, H. C.	Minooka, Ill	Washing machine	Feb. 12, 1861.
2972	Alger, Charles	Hudson, N. Y.	Breech-loading ordnance	Dec. 24, 1861.
	Allanson, Samuel, *et al.* (*See* Coppage, Francis C., assignor.)			
1	Allan, R., assignor to A. Smith	Camden, N. Y.	Carpet (Design)	Feb. 5, 1861.
937	Allard, D. N.	McConnelsville, Ohio	Horse-shoe machine	April 9, 1861.
21	Allen, Aaron H.	Boston, Mass	Seats for public buildings. (Original patent Dec. 5, 1854; reissued January 15, 1861.)	(Reissue.)
691	Allen, Ethan	Worcester, Mass	Machine for manufacture of metallic cartridges	Mar. 19, 1861.

2324	Allen, Ethan	Worcester, Mass	Revolving fire-arms	Sept. 24, 1861.
2595	Allen, Ethan	Worcester, Mass	Revolving fire-arms	Oct. 22, 1861.
369	Allen, Josiah A	Deerfield, Mass	Butter worker	Feb. 12, 1861.
1453	Allen, L. H	Amherst, Mass	Forming wire-cloth dish covers	June 4, 1861.
98	Allen, T. F	Dyersville, Iowa	Springs for railroad cars	Jan. 15, 1861.
1950	Allender, John	New London, Conn	Wringing machines	July 30, 1861.
	Alley, John B., and Edward H. Ashcroft. (*See* Curtis, Frederick, assignor.)			
2766	Alsop, Charles H	Middletown, Conn	Revolving fire-arms	Nov. 26, 1861.
1671	Alsop, Charles H	Middletown, Conn	Chuck for boring fire-arm cylinders	July 2, 1861.
1329	Alsop, Charles R., assignor to J. W. Alsop	Middletown, Conn	Revolving fire-arms	May 14, 1861.
580	Alvord, Clark	Westford, Wis	Binding attachment to harvesters	Mar. 5, 1861.
1033	Alvord, Joseph D	Bridgeport, Conn	Binder guides for sewing machines	April 16, 1861.
1106	Ambrose, Joshua E	Lena, Ill	Lamps	April 23, 1861.
	American Hard Rubber Company. (*See* Franklin, Bradley W., assignor.)			
	American Hoop Machine Company. (*See* Sawyer, J. & S., assignors.)			
	American Telegraph Company. (*See* Phelps, George M., assignor.)			
	Ames, James T. (*See* Terry, S. M., assignor.)			
2726	Ames, Nathan, assignor to Parker & Perkins	Saugus Centre, Mass	Means of attaching forks and spoons to knives	Nov. 19, 1861.
2381	Ames, Nathan	Saugus Centre, Mass	Combination of knife, fork, and spoon	Sept. 17, 1861.
2312	Ames, Nathan, assignor to himself and J. C. Wilder	Saugus Centre, Mass	Strainer for coffee and tea pots	Sept. 17, 1861.
	Amoskeag Manufacturing Company. (*See* Bean, Nehemiah S., assignor.)			
	Amoskeag Manufacturing Company. (*See* Bean, Nehemiah S., assignor.)			
2685	Anderson, Albert	Bridgeport, Conn	Roller skates	Nov. 12, 1861.
765	Anderson, C. F., and S. Davis	Claremont, N. H	Water elevators	Mar. 26, 1861.
1549	Anderson, Charles T	Hyattstown, Md	Churn	June 18, 1861.
1107	Anderson, David S	Trenton, N. J	Apparatus for making roofing cloth	April 23, 1861.
361	Anderson, P	Norwich, N. Y	Water elevators	Feb. 12, 1861.
2467	Anderson, Thomas K	Addison, N. Y	Oil cans	Oct. 15, 1861.
1849	Andres, Stephen R	Troy, N. Y	Articles of food made from beans	July 23, 1861.
518	Andress, Samuel	Chesaning, Mich	Transmitting motion	Feb. 26, 1861.
1603	Andrew, P	Cincinnati, Ohio	City railways	June 25, 1861.
2624	Andrews, Benjamin	Philadelphia, Pa	Army trunks	Nov. 5, 1861.
2727	Andrews, Joel W	Norristown, Pa	Gun and bayonet battery	Nov. 19, 1861.
1499	Andrews, John	Brunswick, Me	Mode of securing circular saws to arbors	June 11, 1861.
285	Andrews, Tyler	North Easton, Mass	Adjusting coupling-link of railway cars	Feb. 5, 1861.
2767	Andrews, Wm. H	New Haven, Conn	Variable cams	Nov. 26, 1861.
428	Anson, Rufus	New York, N. Y	Bath for turning photographic pictures	Feb. 19, 1861.
2326	Anthoni, Charles Gustave	Paris, France	Photographic apparatus	Sept. 10, 1861.
1400	Anthony, H. T., and F. Phoebus	New York, N. Y	Photographic albums	May 28, 1861.
	Archbold, Samuel, and J. Cragg. (*See* Cragg & Archbold.)			
	Archibald, J. T., and J. Stone. (*See* Stone & Archibald.)			
213	Armstrong, George W	Clinton, N. C	Water wheels	Jan. 29, 1861.
1034	Armstrong, James	Dobbinsville, N. C	Operating pumps	April 16, 1861.
1035	Armstrong, John R	Kendallville, Ind	Steam-engines	April 16, 1861.
1810	Armstrong, William F., and Morgan Payne	Cardington, Ohio	Churns	July 16, 1861.
1736	Arnold, Benjamin	East Greenwich, R. I	Lamp shade	July 9, 1861.
	Arnold, B., and J. C. Butterworth. (*See* Butterworth & Arnold.)			

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1811	Arnold, Benjamin	East Greenwich, R. I.	Filters	July 16, 1861.
2225	Arnold, Horace L	Elk Horn, Wis.	Machines for dressing hides	Sept. 10, 1861.
1812	Arnold, Varnum G	Providence, R. I.	Stud and button fastening	July 16, 1861.
2419	Arnold, William E. & H. G	Rochester, N. Y.	Sash and blind fastener	Oct. 8, 1861.
766	Asay, A. M. & J. L	Philadelphia, Pa.	Moulds for artificial teeth	Mar. 25, 1861.
2282	Ashald, Abel	Garrettsville, Ohio	Camp stool	Sept. 17, 1861.
	Ashcroft, Edward H., and John B. Alley. (*See* Curtis, Frederick, assignor.)			
	Ashcroft, E. H. (*See* Haskell, A. L., assignor.)			
286	Ashley, Frederick	New York, N. Y.	Ice chair	Feb. 5, 1861.
	Ashley, Wm., *et al.* (*See* Jenne, Lansing K., assignor.)			
	Ashmead, Jas. H., *et al.* (*See* Stever, Jeremiah, assignor.)			(Reissue.)
	Ashmead, J. H., *et al.* (*See* Randall, D. F., assignor.)			
1267	Askam, Charles	Philadelphia, Pa.	Children's carriages	May 14, 1861.
	Atterbury, Hale & Co. (*See* Reighard, Jacob, assignor.)			
	Atterbury, J. S., and J. Hale. (*See* Hale & Atterbury.)			
856	Atwater, Joseph H	Providence, R. I.	Portable copying press	
	Atwood, Anson	Troy, N. Y.	Cast-iron car wheels. (Original patent, May 15, 1847; re-issued June 9, 1857. Divisions B and C, September 22, 1857, extended April 27, 1861.)	(Extension.)
506	Atwood, J. E., and Lewis Leigh, assignors to themselves, J. C. Atwood, V. A. Messenger & Bro.	Mansfield Centre, Conn. / Seymour, Conn.	Machine for sorting silk thread	Feb. 19, 1861.
854	Atwood, Luther	New York, N. Y.	Manufacture of hydro-carbon oils	Mar. 26, 1861.
1672	Aubin, N	Albany, N. Y.	Dry gas-holders	July 2, 1861.
936	Auborn, Calvin	Watertown, N. Y.	Cheese presses	April 9, 1861.
	Augee, H., and B. C. Bibb. (*See* Bibb & Augee.)			
198	Auld, W. H., assignor to self and R. C. Brown	Fairfield, Iowa.	Circular sawing machines	Jan. 22, 1861.
140	Aultman, C., and L. Miller, assignors, by *mesne* assts., to C. Aultman & Co.	Canton, Ohio.	Mowing machines (Original patent, June 17, 1856; re-issued July 19, 1859; again re-issued December 10, 1861.)	(Division of re-issue, B.)
141	Aultman, C., and L. Miller, assignors, by *mesne* assts. to C. Aultman & Co.	Canton, Ohio.	Mowing machines. (Original patent, June 17, 1856; re-issued July 19, 1859, again re-issued December 10, 1861.)	(Division of re-issue, B.)
	Aultman, C., & Co. (*See* Miller, Lewis, assignor.)			
581	Austin, Wm. W., and F. Creasey	Carrollton, Mo.	Hemp breaks	Mar. 5, 1861.
2625	Avery, John P	Norwich, Conn.	Trusses for bridges	Nov. 5, 1861.
2559	Avery, Wyllys	Salisbury, N. Y.	Window-blind fasteners	Oct. 29, 1861.
141	Axe, William R	Beloit, Wis.	Clamping machine for carpenters	Jan. 22, 1861.
582	Axe, William R	Beloit, Wis.	Mop-holder	Mar. 5, 1861.
2798	Baar, G. L	Indianapolis, Ind.	Scroll saw	Nov. 19, 1861.
227	Babbitt, Benjamin T	New York, N. Y.	Ordnance	Feb. 5, 1861.
1737	Babbitt, B. T	New York, N. Y.	Construction of iron vessels	July 9, 1861.
	Babcock, Charles T. (*See* Richards, Wm. H., assignor.)			
288	Babcock, G. H	New York, N. Y.	Apparatus for mitreing printers' rules	Feb. 5, 1861.
1036	Bacon, F. M., and Joseph Fowler	Ripon, Wis. / Hartland, Wis.	Seeding machines	April 16, 1861.

1673	Bacon, Jerome & Gilbert	Medina, Wis.	Washing machine	July 2, 1861.
429	Bacon, J. M.	Ripon, Wis.	Seeding machines	Feb. 19, 1861.
1550	Badlam, Edward	Ogdensburg, N. Y.	Seeding harrows	June 18, 1861.
1108	Bailey, Charles	Batavia, Ill.	Arrangement of threshing cylinder corn-sheller and grinding mill.	April 23, 1861.
935	Bailey, E. H.	Philadelphia, Pa	Key-fastener	April 9, 1861.
1168	Bailey, Franklin L	Boston, Mass.	Printing presses	April 30, 1861.
1109	Bailey, Henry.	Columbia, Me.	Washing machine	April 23, 1861.
	Bailey, O. B., and M. R. Griswold. (See Griswold & Bailey.)			
1850	Bain, Alexander	New York, N. Y.	Telegraph	July 23, 1861.
1037	Bain, James, and Samuel C. Brown	Richmond, Ind	Tenoning machine	April 16, 1861.
1590	Baker, C. L. W., assignor to self and J. W. Bliss	Hartford, Conn	Broom corn	June 11, 1861.
	Baker & Grover Sewing Machine Co. (See Hook, Albert H.)			
1738	Baker, John C.	Adams Centre, N. Y.	Wheels for carriages	July 9, 1861.
1339	Baker, M. L.	Milford, N. Y.	Apparatus for milking cows	May 21, 1861.
	Baker, Wm. E., and W. O. Grover. (See Grover & Baker.)			
	Baker, Stephen A., *et al.* (See Thayer, Daniel H., ass'r.)			
2386	Baker, S. W.	Providence, R. I	Woven endless belting	Oct. 22, 1861.
2929	Baker, W. S. G.	Baltimore, Md	Camp bed	Dec. 17, 1861.
1340	Baker, Walter	Westminster, Conn	Manufacture of hoes	May 21, 1861.
1454	Baker, William C	New York, N. Y.	Steam heating apparatus	June 4, 1861.
310	Baker, William M	Walpole, Ind	Refrigerator. (Original patent, April 3, 1860: additional improvement, January 15, 1861.)	(Additional improvement.)
	Baker, W. R. (See McCormick & Baker.)			
	Baldwin, B. S., *et al.* (See Harrah, Baldwin & Jones.)			
	Baldwin, Eli N. (See Hooper, Benjamin F., assignor.)			
	Baldwin, George D. (See Butterworth, Joshua H., ass'r)			
1501	Baldwin, H. L.	Branford, Conn	Curry combs	June 11, 1861.
	Baldwin, Isaac P. (See Randall, Henry, assignor.)			
289	Baldwin, Norman R	Afton, N. Y	Cart	Feb. 5, 1861.
1502	Baldwin, Sarah A	Waterbury, Conn	Skirt supporters	June 11, 1861.
	Ball, C., *et al.* (See Glenn, Ball & Hackett.)			
	Ball, George W., *et al.* (See Nye, John Wight, assignor.)			
2926	Ball, H. W	New York, N. Y.	Camp chest and cook stove combined	Nov. 5, 1861.
2627	Ballard, C. H	Worcester, Mass	Breech-loading fire-arms	Nov. 5, 1861.
767	Ballard, H. H., and H. McClure	Mount Pleasant, Iowa	Mole plough	Mar. 26, 1861.
280	Ballard, M. L	Canton, Ohio	Finger guards for harvesters	Jan. 29, 1861.
214	Ballard, M. L	Canton, Ohio	Finger guards for harvesters	Jan. 29, 1861.
215	Ballard, M. L	Canton, Ohio	Finger guards for harvesters	Jan. 29, 1861.
216	Ballard, M. L	Canton, Ohio	Finger guards for harvesters	Jan. 29, 1861.
430	Ballman, Louis	Boston, Mass	Sewing machines	Feb. 19, 1861.
199	Ballou, Francis D., assignor to self and J. L. Nash	Abington, Mass	Sewing machines	Jan. 22, 1861.
2468	Balsburgh, J., *et al.* (See Fassler, C. W., assignor.)			
	Bancroft, T. G.	Worcester, Mass	Umbrellas and parasols	Oct. 15, 1861.
67	Bangs, Francis N., *et al.* (See Harsen, Wm., assignor.)			
	Banker, E. B	Schaghticoke, N. Y.	Railroad chairs	Jan. 15, 1861.
431	Banks, T. C., *et al.* (See Warren, Sylvester W., assignor.)			
122	Barber, Hiram	Milpitas, Cal.	Gates	Feb. 19, 1861.
	Barber, I. S., assignor to Robert J. Marcher	Boston, Mass.	Machines for cutting irregular forms. (Original patent, May 15, 1855; reissued September 10, 1861.)	(Reissue.)
	Bard, Winfield S. (See Towers, Wm. H., assignor.)			
	Bard, Winfield S. (See Towers, Wm. H., assignor.)			
	Barker, Daniel E., and William Van Duzer. (See Sprague, Welcome, assignor.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1739	Barker, George	New York, N. Y	Machinery for making cigars	July 9, 1861.
2283	Barker, George R	Germantown, Pa	Brakes for horse cars	Sept. 17, 1861.
2429	Barker, J. W., and J. P. Haskins	Syracuse, N. Y	Purification of common salt	Oct. 8, 1861.
2636	Barker, Silas, and A. H. Smith	Hartford, Conn	Water metres	Nov. 12, 1861.
25	Barley, Samuel and J. H.	Longwood, Mo.	Harvesters. (Original patent, June 19, 1860 reissued January 22, 1861.)	(Reissue.)
2507	Barlow, A. P	Dixon, Ill	Washing machine	Oct. 22, 1861.
	Barlow, Renton & Crosby. (*See* Renton, Crosby & Barlow.)			
99	Barnard, Ambrose E.	Paterson, N. J	Hose coupling	Jan. 15, 1861.
	Barnard, Charles E. (*See* Sayre, Charles H., assignor.)			
217	Barnard, William B	Waterbury, Conn	Sash fastener	Jan. 29, 1861.
2431	Barnes, George C	Battle Creek, Mich	Saw mills	Oct. 8, 1861.
1110	Barnes, Edmund F	Brooklyn, N. Y	Railroad chair and splice	April 23, 1861.
2369	Barnes, Edmund F	New York, N. Y	Telegraph instrument	Oct. 1, 1861.
	Barnes, S. H., *et al.* (*See* Daniels, Phylander, assignor.)			
	Barnett, G. W., *et al.* (*See* Owen, J. D., assignor.)			
	Barnes, W. H. (*See* Crocker, Horace T., assignor.)			
2921	Barney, Benjamin G.	Philadelphia, Pa	Fastenings for shoulder straps	Dec. 17, 1861.
352	Barnum, Daniel	Jersey City, N. J	Guides for sewing machines	Feb. 12, 1861.
1503	Barrand, L. D.	New York, N. Y	Scroll sewing machines	June 11, 1861.
768	Barre, Leon Pierre	Paris, France	Steam boilers	Mar. 26, 1861.
1603	Barrett, Nathan	New York, N. Y	Pumps	June 25, 1861.
2407	Barrett, Oliver D., assignor to self and Stephen E. Lanphear	Fulton, N. Y	Clothes wringers	Oct. 1, 1861.
31	Barstow, A. C	Providence, R. I	Stove (Design)	Mar. 26, 1861.
1224	Barstow, A. C., assignor to Barstow Stove Company	Providence, R. I	Cooking stoves	April 30, 1861.
1740	Bartholomae, Charles	New York, N. Y	Canteen	July 9, 1861.
2628	Bartholomew, F. H	New York, N. Y	Water-closet	Nov. 5, 1861.
1343	Bartholomew, Harry S.	Bristol, Conn.	Ball brace	May 21, 1861.
1341	Bartholow, Roberts	United States army	Water-proof cartridge	May 21, 1861.
938	Bartle, Ransom	Independence, Iowa	Water elevators	April 9, 1861.
	Bartlett & Johnson. (*See* Johnson & Bartlett.)			
100	Bartlett, Dennis S	Roxbury, Mass	Weight and hitch strap for fastening horses	Jan. 15, 1861.
	Bartlett, S. S., and J. E. Brown. (*See* Brown & Bartlett.)			
2326	Bartlett, S. S., assignor to self and Thomas H. Dodge	Woonsocket, R. I	Mortising machine	Sept. 24, 1861.
1951	Bartlett, William D	Amesbury, Mass	Furnaces for heating buildings	July 30, 1861.
1741	Barton, E. P., and Fowle, R. W.	Batavia, N. Y Bath, N. Y.	Hay rakes	July 9, 1861.
1490	Bartoo, Jesse, assignor to self and Zina H. Hemstreet	East Aurora, N. Y	Excavators	June 4, 1861.
200	Bartram, Walter B., assignor to C. T. Dudley and A. S. Dodd, and said Dudley assignor to said Dodd.	Norwalk, Conn	Fare boxes	Jan. 22, 1861.
1169	Bassford, A., jr., and W. B. Carpenter	New York, N. Y	Skates	April 30, 1861.
1170	Batcheller, L. B.	Rochester, N. Y	Pistons of steam-engines	April 30, 1861.
1851	Battermann, H. C. W	New York, N. Y	Bird cages	July 23, 1861.
143	Bauhoefer, Louis	Philadelphia, Pa	Gum shoes and boots	Jan. 22, 1861.
939	Bausman, J. B.	Rochester, Pa.	Car ventilator	April 9, 1861.

	Bay State Glass Company. (*See* Chaffee, Chas. S., assignor.)			
940	Bayley, A. L.	Amesbury, Mass.	Shaping and embossing hats and caps	April 9, 1861.
1813	Bayley, A. L.	Amesbury, Mass.	Steam trap	July 16, 1861.
218	Bayley, G. W. R., and T. W. Nelson	Brashear, La.	Draw bridges	Jan. 29, 1861.
2870	Baylis, James R.	Baltimore, Md.	Double-cone marine propeller	Dec. 10, 1861.
941	Bazin, James A.	Canton, Mass.	Bobbins for spinning machines	April 9, 1861.
	Beach, Burrough, and George Minor. (*See* Minor & Beach.)			
363	Beach, Charles, and Thomas Brown	Jacksontown, Ohio	Cultivators	Feb. 12, 1861.
	Beach, James C. (*See* Wheeler, Grant J., *et al.*, assignors.)			
1504	Beach, Henry H.	Philadelphia, Pa	Grain winnowers	June 11, 1861.
2227	Beach, Henry H.	Philadelphia, Pa	Grain separators	Sept. 10, 1861.
2560	Beach, William	Hamden, Conn.	Tanning composition	Oct. 29, 1861.
343	Beach, W. H., assignor to J. S. Beach	Chicago, Ill.	Machine for swaging sheet metal	Feb. 5, 1861.
942	Beagle, Henry J.	Philadelphia, Pa	Safety hooks for harness	April 9, 1861.
1455	Beall, Z. M.	Russellville, Ky.	Ploughs	June 4, 1861.
101	Bean, J. H.	Forreston, Ill.	Seed drills	Jan. 15, 1861.
134	Bean, Nehemiah S., assignor to the Amoskeag Manufacturing Company.	Manchester, N. H.	Steam fire-engines	Jan. 15, 1861.
201	Bean, Nehemiah S., assignor to the Amoskeag Manufacturing Company.	Manchester, N. H.	Staff motion picker	Jan. 22, 1861.
1814	Beard, G. N.	St. Louis, Mo.	Iron ties for cotton press	July 16, 1861.
1604	Beardsley, Levi A.	South Edmeston, N. Y.	Portable crane	June 25, 1861.
1852	Beardsley, Levi A.	South Edmeston, N. Y.	Pulley blocks	July 23, 1861.
2173	Beardsley, Levi A.	South Edmeston, N. Y.	Hop frames	Sept. 3, 1861.
2284	Beardsley, Levi A.	South Edmeston, N. Y.	Hay elevating fork	Sept. 17, 1861.
2561	Beardsley, Lester C.	Cleveland, Ohio	Ventilators for railroad cars	Oct. 29, 1861.
2285	Beardsley, Orson P.	McDonough, N. Y.	Process of refining maple sugar	Sept. 17, 1861.
	Beatty, A. W., and R. H. Blair. (*See* Blair & Beatty.)			
1342	Beatty, G. & C.	Norwalk, Conn.	Apparatus for forming hat bodies	May 21, 1861.
	Beauche, Louis, *et al.* (*See* Muller & Majer, assignors.)			
2973	Beck, Traugott	Newark, N. J.	Apparatus for bracing the yards of vessels	Dec. 24, 1861.
2123	Beecher, William F.	Chicago, Ill.	Stoves	Aug. 27, 1861.
1171	Behn, Henry	New York, N. Y.	Washing machine	April 30, 1861.
1730	Behr, Edward, assignor to self and H. C. Mangels	Brooklyn, N. Y.	Skate	July 2, 1861.
	Behrmann, J. B. (*See* Kipling, H.)			
143	Bell, A. John	Ashland, Ky.	Staging, steamboat	Jan. 22, 1861.
1605	Bell, David	Buffalo, N. Y.	Screw propeller	June 25, 1861.
648	Bell, James H.	Chelsea, Mass.	Stove-pipe connexion	Mar. 12, 1861.
943	Bell, Joseph	Bellville, Ill.	Bolting chests	April 9, 1861.
2229	Bellinger, Earll	Hickory Corners, Mich.	Seeding machines	Sept. 10, 1861.
202	Bellingrath, Albert, assignor to self and Leon'd Bellingrath, jr.	Atlanta, Ga.	Pumps	Jan. 22, 1861.
649	Benedict, J. A., and G. W. Cummings	Conneaut, Ohio	Ditching machine	Mar. 12, 1861.
144	Bennett, G., and R. Dalzell	Waddington, N. Y.	Machine for cutting screws and tapping nuts	Jan. 22, 1861.
2922	Bennett, J. H. H.	Hunt's Hollow, N. Y.	Hotel annunciator	Dec. 17, 1861.
2286	Bennett, Noah	Sherman, N. Y.	Butter workers	Sept. 17, 1861.
	Bensel, William P., and Daniel R. Bowker. (*See* Bowker & Bensel.)			
1959	Benson, Benjamin S.	Baltimore, Md.	Machine pipe moulding	July 30, 1861.
2174	Benson, Benjamin S.	Baltimore, Md.	Machine for moulding pipe	Sept. 3, 1861.
2408	Bent, Samuel S., assignor to self and Thomas Bent	New York, N. Y.	Fireplace heaters	Oct. 1, 1861.
1268	Benton, Henry	Guilford, Conn.	Children's flying top	May 14, 1861.
1674	Bentz, Charles	Mendenville, N. Y.	Whiffletree hooks	July 22, 1861.
	Berger, Jasper. (*See* Van Camp, Gilbert, assignor.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Berky, R. B., and J. Wenisch. (*See* Wenisch & Berky.)			
1	Berry, William C	Woodbridge, N. J	Machines for cutting roots	Jan. 1, 1861.
2768	Berthoud, Achille	New York, N. Y	Apparatus for advertising	Nov. 26, 1861.
583	Best, Benjamin	Dayton, Ohio	Composition to prevent the premature decay of trees, vines, &c.	Mar. 5, 1861.
1456	Betts, Henry T	Springfield, Mass.	Carriage steps	June 4, 1861.
2175	Betts, William	Wharf Road, City Road, England	Metallic capsules	Sept. 3, 1861.
1172	Bibb, B. C., and H. Augee	Baltimore, Md	Stoves	April 30, 1861.
1606	Bibb, Bentley C., George F. Needham, and George W. Dorsey	Baltimore, Md. / Port Republic, Md	Apparatus for curing tobacco	June 25, 1861.
1505	Bidwell, Samuel W	Hartford, Conn	Machine for boring and mortising	June 11, 1861.
1953	Bigelow, A	Hamilton, Canada West	Rock drills	July 30, 1861.
	Bigelow, Erastus B	Boston, Mass	Brussels looms (Extension)	Mar. 6, 1861.
2228	Bigelow, Edwin R	Salem, Mass	Clothes frame	Sept. 10, 1861.
	Bigelow, H. B. (*See* Widmer, Jacob, assignor.)			
2176	Bigelow, William H	South Framingham, Mass	Melodeons	Sept. 3, 1861.
	Billings, A. M., et al. (See Sawyer, Langdon, assignor.)			
	Billings, G. W., and H. H. Hudson. (See Hudson & Billings.)			
2287	Billings, Henry A	Providence, R. I	Pipe moulding machine	Sept. 17, 1861.
2687	Billings, O	La Grange, Ohio	Grain and grass harvesters	Nov. 12, 1861.
2688	Billings, Uriah	New Bedford, Mass	Machines for making horse shoes	Nov. 12, 1861.
2409	Birdsell, William H., assignor to self and Eli Kellum	Elizabethport, N. J	Tackle block-hook	Oct. 1, 1861.
1607	Bishop, George G	Norwalk, Conn	Machines for making felt cloth	June 25, 1861.
433	Bishop, Josiah	Austin, Texas	Machines for extracting cotton and corn stalks	Feb. 19, 1861.
432	Bisbee, Franklin	Scituate, Mass	Masons' trowels	Feb. 19, 1861.
2814	Bissell, David	Detroit, Mich	Machines for turning boot legs	Dec. 3, 1861.
1344	Bixler, C	Rogersville, Ohio	Water elevators	May 21, 1861.
769	Black, A. H., and C. R. Black	Indianapolis, Ind	Hygrometer	Mar. 26, 1861.
	Black, James, and R. E. Rogers. (*See* Rogers & Black.)			
1954	Black, J. F. & W. L	Lancaster, Ill	Gang ploughs	July 30, 1861.
1402	Black, S. B	Harrisburg, Pa	Machines for sowing guano	May 28, 1861.
1608	Blackwood, Reuel	Philadelphia, Pa	Hydraulic jack	June 25, 1861.
2662	Blair, R. A., and John B. Reed	New Philadelphia, Ohio	Plough clevis	Aug. 20, 1861.
2598	Blair, R. H., and A. W. Beatty	Saltsburg, Pa	Combined clover stripper and hay rake	Oct. 22, 1861.
	Blake Brothers. (*See* Burgess, Edward A, assignor.)			
	Blake, David, *et al.* (*See* Dodge, Levi, assignor.)			
	Blake, David, and Jas. Dodge. *See* Dodge, Jas., assignor.)			
855	Blake, George W., assignor to self and L. W. Blake	East Pepperell, Mass	Belt fastening	Mar. 26, 1861.
2663	Blake, George W	New York, N. Y	Low water detector for steam boilers	Aug. 20, 1861.
2806	Blake, George F., assignor to self and Peter Hubbell	Medford, Mass	Machines for pulverizing and cleaning clay	Nov. 25, 1861.
2974	Blake, S. A	New York, N. Y	Bonnets	Dec. 24, 1861.
692	Blake, William	Boston, Mass	Furnace for galvanizing iron	Mar. 19, 1861.
	Blanchard, A. V., J. D., & F. (*See* Howard, G. C., assignor.)			
857	Blanchard, Francis Brown	Brooklyn, N. Y	Steam boilers	April 2, 1861.
[illegible]19	Blanchard, F. B	New York, N. Y	Application of blowers to furnaces of locomotive	June 25, 1861.

1609	Blanchard, F. B.	Brooklyn, N. Y.	Steam boiler	June 25, 1861.
2358	Blanchard, J. B	Sacramento, Cal	Anti-friction boxes for carriage wheels	Sept. 17, 1861.
	Bleecker, Theophylact B	New York, N. Y.	Folding bedsteads (Extension)	April 17, 1861.
	Bliss, George F., and W. C. Salmon. (See Salmon & Bliss.)			
	Bliss, J. W., *et al.* (See Baker, C. L. W., assignor.)			
1742	Blodgett, Canfield	Morrison, Ill	Ploughs	July 9, 1861.
145	Blood, Abijah E. & Josiah B	Lynn, Mass	Sieves	Jan. 22, 1861.
2239	Blood, Abijah E. & Josiah B	Lynn, Mass	Flour sifter	Sept. 17, 1861.
2370	Bloodgood, John H	New York, N. Y.	Machinery for drawing and spinning wool	Oct. 1, 1861.
770	Blue, John	Covert, N. Y.	Harvesters	Mar. 26, 1861.
434	Bly, Douglas	Rochester, N. Y.	Artificial legs	Feb. 19, 1861.
317	Bly, Douglas	Rochester, N. Y.	Attaching thills to vehicles, (additional improvement)	Mar. 12, 1861.
858	Blythe, John O	Germantown, Pa	Door-spring	April 2, 1861.
2117	Blythe, John O., assignor to self and Jos. W. Jones	Germantown, Pa	Ventilating hats and caps	Aug. 20, 1861.
2230	Boardman, Henry K. W	Chicago, Ill.	Vaginal syringes	Sept. 10, 1861.
	Bodine, John F. (See Wilson, Joseph B., assignor.)			
2629	Boedicker, John Daniel	New York, N. Y.	Piano-forte action	Nov. 5, 1861.
859	Boekler, R., and W. Staehler	New York, N. Y.	Smoking tube	April 2, 1861.
2021	Boekler, R., and W. Staehler	Brooklyn, N. Y.	Buttons or garment fasteners	Aug. 13, 1861.
1955	Bogardus, O. H	Syracuse, N. Y.	Grade delineator	July 30, 1861.
2509	Bogia, Matthew C	Philadelphia, Pa	Rammers for cannon	Oct. 22, 1861.
1611	Boies, Horace	Hamburg, N. Y.	Washing machines	June 25, 1861.
219	Bois, James M.	Aurora, N. Y.	Washing machines	Jan. 29, 1861.
2124	Boissard, F., and S. Conrath	New York, N. Y.	Bedstead and trunk combined	Aug. 27, 1861.
146	Boisson, Louis A.	Lyons, France	Ovens for baking fire-bricks	Jan. 29, 1861.
2807	Bolles, Sol. E., assignor to self and Thos. Ellis	Mattapoisett, Mass.	Carriage-pole supporter	Nov. 26, 1861.
2371	Bollinger, Cornelius	Glen Rock, Pa.	Pump	Oct. 1, 1861.
771	Bollinger, Martin Eli	Littlestown, Pa.	Oscillating engines	Mar. 26, 1861.
2410	Bollman, Louis, assignor to Grover & Baker Sewing Machine Company.	Boston, Mass	Sewing machines. (Patented in England Feb. 18, 1861)	Oct. 1, 1861.
2411	Bollman, Louis, assignor to Grover & Baker Sewing Machine Company.	Boston, Mass	Sewing machines. (Patented in England Nov. 24, 1860)	Oct. 1, 1861.
2469	Bolster, Olney	Worcester, Mass	Stall for animals	Oct. 15, 1861.
2815	Bolton, John Adams	Leicester, England	Hot-air furnaces. (Patented in England Mar. 19, 1861)	Dec. 3, 1861.
1457	Bonard, Louis	New York, N. Y.	Circular looms for weaving hats	June 4, 1861.
1956	Bond, Henry F.	Waltham, Mass	Machine for sharpening fence pickets	July 30, 1861.
	Bond, Richard. (See Ross, Robert, assignor.)			
1743	Boore, Lewis	Buffalo, N. Y.	Dry gas metres	July 9, 1861.
772	Boorn, Samuel	Lowell, Mass	Pickers for looms	Mar. 26, 1861.
941	Boorn, Samuel	Lowell, Mass	Pickers for looms	April 9, 1861.
	Bostwick, J. A. (See McMuttry, John, assignor.)			
290	Bottoms, Thomas J	Thomasville, Ga	Horse powers	Feb. 5, 1861.
	Bouton, N. S. (See Hurlbut, E. F., assignor.)			
2871	Bowen, Edwin	Meriden, Conn	Mode of securing chimneys to lamps	Dec. 10, 1861.
2125	Bowers, Henry	New Hudson, Mich	Cultivators	Aug. 27, 1861.
364	Bowker, Daniel R, and Wm. P. Bensell	New York, N. Y.	Machine for chiming and jointing staves	Feb. 12, 1861.
	Bowman, Huntley & Co. (See Landon, Fred., assignor.)			
	Bowman, Huntley & Co. (See Landon, Fred., assignor.)			
	Bowman, Huntley & Silliman. (See Landon, F., assignor.)			
860	Boyd, Amos H.	Rockville, Mass	Sewing machines	April 2, 1861.
1612	Boyd, David M.	Indianapolis, Ind	Tilting device in shingle machines	June 25, 1861.
2034	Boyd, Thomas	Boston, Mass	Ventilating cap for tents	Aug. 20, 1861.
2126	Boyd, Thomas	Boston, Mass	Tents	Aug. 27, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Boyer, M. C., and Jane H. West. (*See* West, John G., jr., assignor.)			
	Boyland, J. N., *et al.* (*See* Stokes, James W., assignor.)			
773	Boynton, E. S.	Alexandria, Va	Iron masts, steeples, &c	Mar. 26, 1861.
2868	Bracher, Thomas	New York, N. Y	Manufacturing bonnets	Dec. 3, 1861.
29	Brackett, Sewall	Fall River, Mass	Fork cleaner (Reissue)	Feb. 5, 1861.
2816	Bradley, C. O	Brodhead, Wis	Double trees	Dec. 3, 1861.
1744	Bradley, C. H	West Chester, Pa	Post office distributing table	July 9, 1861.
2177	Bradley, Jacob	St. Mary's, Ohio	Steam engines	Sept. 3, 1861.
2758	Bradley, George, assignor to Jacob S. Rogers	Paterson, N. J	Carding engines	Nov. 19, 1861.
520	Bradley, Lewis	Hartford, Conn	Compensating pendulums	Feb. 26, 1861.
2372	Bradley, Morris	Empire Ranch, Cal	Gold-washer	Oct. 1, 1861.
	Bradley, Wm. H. (*See* Smith, Anthony, assignor.)			
1441	Bradshaw, John A., assignor to self and Wm. H. Brown, sr.	Lowell, Mass	Machines for winding thread	May 28, 1861.
	Brady, O. G., and G. B. Gurley. (*See* Gurley & Brady.)			
435	Brahn, John M	Red Bank, N. J	Railroad switches	Feb. 19, 1861.
135	Braidwood, William, and R. Whiting, assignors to Thomas Holmes	Mount Vernon, Brooklyn, N. Y.	Operating slide valves of engines and pumps	Jan. 15, 1861.
861	Brainerd, J., E. F. Olds, and A. W. Olds	Cleveland, Ohio, Lyon, Mich., Green Oak, Mich.	Harrow frames	April 2, 1861.
2178	Brainerd, Jehu	Cleveland, Ohio	Tanning	Sept. 3, 1861.
2327	Brainerd, Jehu	Cleveland, Ohio	Processes of coloring skins and leather	Sept. 24, 1861.
693	Brakeley, Joseph	New York, N. Y	Machines for planing bark	Mar. 19, 1861.
521	Brand, Nathan	Leonardsville, N. Y	Machine for manufacture of hoe blanks	Feb. 26, 1861.
1173	Brannan, William	Gloucester, N. J	Washing machine	April 30, 1861.
	Brayley, James. (*See* Bronson, Levi, assignor.)			
694	Braynard, Thomas L	New York, N. Y	Rein-holder	Mar. 19, 1861.
	Brayley, J., and Mary Pitts, adm'r. (*See* Pitts, John A., deceased.)			
862	Breckinridge, James H	Meriden, Conn	Cap for oil cans	April 2, 1861.
102	Brelsford, M. C	Girard, Ill	Rakes for reapers	Jan. 15, 1861.
	Brett, Cyrus. (*See* Hennessey, Edward, assignor.)			
2373	Brewer, James	Albany, Ill	Combined harrows and sowers	Oct. 1, 1861.
57	Brewer, Isaac D	Cambridge, Mass	Label or trade-mark (Design)	May 28, 1861.
25	Brewster, E. C	Bristol, Conn	Clock case (Design)	Mar. 19, 1861.
2273	Bridges, Albert, assignor to self and Alfred Bridges	New York, N. Y	Springs	Sept. 10, 1861.
1545	Bridgman, George W., assignor to self and Osgood Dane	Somerville, Mass	Car brake	June 11, 1861.
	Bridgman, J. B. (*See* Miller, William, assignor.)			
1551	Briggs, Albert D	Springfield, Mass	Mode of connecting the braces of iron bridges	June 18, 1861.
2	Briggs, Eliakim	South Bend, Ind	Feeding mechanism for spoke machines	Jan. 1, 1861.
291	Briggs, John C	Concord, N. H	Guard to flat irons	Feb. 5, 1861.
863	Briggs, J. E	Watertown, N. Y	Brakes for carriages	April 2, 1861.
2328	Briggs, Joseph W., assignor to self and Kyse Smith	Cleveland, Ohio	Gate or door spring	Sept. 24, 1861.
1174	Brigs, Silas P	Saratoga Springs, N. Y	Hand corn planters	April 30, 1861.

	Briggs, W. H., and E. J. Keep. (See Keep & Briggs.)			
	Brigham, F., & Company. (See Trowbridge, William T., assignor.)			
2011	Brightbill, Adam, assignor to self and John Brightbill	Bethel Township, Pa	Corn planters	Aug. 6, 1861.
68	Brinkerhoff, A. W.	Upper Sandusky, Ohio	Corn planters	Jan. 8, 1861.
1815	Brinkerhoff, A. W	Upper Sandusky, Ohio	Shoes for seed planters	July 16, 1861.
	Brinkerhoff, L. H. & P., *et al.* (See Burr, T., assignor.)			
	Brinkerhoff, Parcel, *et al.* (See Burr, Theodore, assignor.)			
	Brinkerhoff, Rower, *et al.* (See Burr, Theodore, assignor.)			
1403	Brinkerhoff, R.	Mansfield, Ohio	Approach opening gates	May 28, 1861.
2872	Broadwell, Lewis Wells	St. Petersburg, Russia	Breech-loading ordnance	Dec. 10, 1861.
1675	Brock, Charles N.	Philadelphia, Pa	Apparatus for revivifying bone black	July 2, 1861.
1111	Brock, John A.	Chicago, Ill	Mining pan	April 23, 1861.
2329	Brody, Charles	New York, N. Y	Machinery for cleaning vegetable fibres	Sept. 24, 1861.
1038	Bronson, G. N.	New Milford, Conn	Felting machines	April 16, 1861.
2057	Bronson, Levi, assignor to self and James Brayley	Lockport, N. Y	Straw carriers for threshing machines	Aug. 13, 1861.
1404	Brooke, John M	U. S. navy	Detaching hook for nautical use	May 28, 1861.
2729	Brooks, Simeon	Chester, Conn	Machinery for bending hooks and staples	Nov. 19, 1861.
2231	Brotton, Riley	Oskaloosa, Iowa	Cultivators	Sept 10, 1861.
2817	Broughton, John	New York, N. Y	Cut-off valve for steam-engines	Dec. 3, 1861.
	Brouner & Smith. (See Townsend, E. C., assignor.)			
2022	Brower, Isaac V.	Millstone, N. J	Corn harvesters	Aug. 13, 1861.
203	Brown, Albert H., assignor to James Burton	Albany, N. Y	Machines for cutting wooden mouldings	Jan. 22, 1861.
2330	Brown, A. H., assignor to James Burton	Albany, N. Y	Machine for turning ovals	Sept. 24, 1861.
	Brown, A. P., and W. M. Page *et al.* (See Taft, T. F., assignor.)			
	Brown, C. B., and O. G. Langi. (See Holt, James G., ass'r.)			
2374	Brown, Charles F.	Warren, R. I	Projectiles for ordnance	Oct. 1, 1861.
2562	Brown, D. C.	New York, N. Y	Running gear for four-wheeled vehicles	Oct 29, 1861.
945	Brown, E., and W. H. Van Gieson	Waterbury, Conn / Paterson, N. J	Making butt hinges	April 9, 1861.
	Brown, Henry, and G. Smith. (See Smith & Brown.)			
	Brown, H., and G. Smith. (See Smith & Brown, assignors.)			
2967	Brown, J. F., assignor to self and Allen Richards	New London, Conn	Skirt supporters	Dec. 17, 1861.
69	Brown, Ira S.	Hopkinton, R. I	Saw teeth	Jan. 8, 1861.
	Brown, Ira S., and B. B. Kenyon. (See Kenyon & Brown.)			
2818	Brown, James C.	Fond du Lac, Wis	Machines for sawing shingle-bolts	Dec. 3, 1861.
6	Brown, J. F., and S. S. Bartlett	Woonsocket, R. I	Grain and grass harvesters (Reissue.)	Jan. 1, 1861.
1112	Brown, J. F.	Columbus, Ga	Cotton gins	April 23, 1861.
	Brown, John H., and James Harper. (See Krauser, John L., assignor.)			
2065	Brown, John Harcourt	Romsey, Eng	Preparation of gunpowder to serve as charges for fire-arms	Aug. 20, 1861; antedated Oct. 15, 1859.
103	Brown, Lewis B.	Scriven county, Ga	Cotton-seed planters	Jan. 15, 1861.
1552	Brown, Robert	Frederick, Md	Harvesters	June 18, 1861.
	Brown, R. C. (See Auld, W. H., assignor.)			
	Brown & Smith, assignors to North, Chase & North. (See Smith & Brown, assignors.)			
2023	Brown, Samuel, jr.	Morristown, Pa	Telegraphic instruments	Aug. 13, 1861.
	Brown, Samuel C., and James Bain. (See Bain & Brown.)			
684	Brown, S. W., assignor to self and J. McComber	Syracuse, N. Y	Method of locking type galleys	Mar. 12, 1861.
	Brown, Thomas, and Charles Beach. (See Beach & Brown.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Brown, Thomas	London, Eng.	Arrangement of means for working and stopping chain-cables	April 20, 1861; (extension.)
	Brown, T. W., & L. Campbell. (*See* Campbell, Leonard, assignor.)			
2075	Brown, Wm. A.	Philadelphia, Pa.	Railroad car ventilators	Dec. 24, 1861.
	Brown & Whitney. (*See* George S. Reynolds, assignor.)			
	Brown, William H., sr. (*See* Bradshaw, John A., assignor.)			
1138	Browne, Louis H.	Boston, Mass.	Keys for piano-fortes	Aug. 6, 1861.
1113	Broy, Daniel	Canton, Mo.	Seed planters	April 23, 1861.
1345	Bruce, George, sr.	Sing Sing, N. Y.	Burglar alarms	May 21, 1861.
1369	Bruce, Norman H.	Shirley, Mass.	Fruit gatherers	Aug. 6, 1861.
2630	Bruckshaw, John Bruckshaw, Henry, and Wm. Scott Underhill	Oakley, Eng. Market Drayton, Eng. Newport, Eng.	Machines for elevating grain	Nov. 5, 1861.
204	Bruen, John T.	Brooklyn, N. Y.	Sewing machines	Jan. 22, 1861.
	Brudenn, A., and E. De Bassano. (*See* De Bassano & Brudenn.)			
220	Brumlen, Ludwig	Hoboken, N. J.	Manufacture of oxychloride of lead	Jan. 29, 1861
774	Brunon, Felix	Philadelphia, Pa.	Register for omnibuses, &c.	Mar. 26, 1861.
946	Brush, George W.	Brooklyn, N. Y.	Floating derricks	April 9, 1861.
2976	Bryan, John O.	Owego, N. Y.	Truss pads	Dec. 24, 1861.
	Bryan, Thomas B., *et al.* (*See* Curtis, assignor.)			
221	Bryant, Joel	Brooklyn, N. Y.	Pen-holders	Jan. 29, 1861.
365	Bryant, S. R.	Waterford, Pa.	Bee hives	Feb. 12, 1861.
	Bryson, R., and John De L. Watkins. (*See* Watkins & Bryson.)			
2977	Buchanan, Andrew	Jersey City, N. J.	Steam-engines	Dec. 24, 1861.
1853	Buck, Jared K.	Winona, Minnesota.	Winnowing machines	July 23, 1861.
	Buckley, D. F., *et al.* (*See* Milliken, Wm. H. & Jno., ass'rs.)			
1458	Bucklin, Moses	Grafton, N. H.	Harrows	June 4, 1861.
	Bucklin, S. S. (See Marshall, Moses, assignor.)			
2779	Buckman, Edward.	East Greenbush, N. Y.	Horse rakes	Sept. 3, 1861.
2978	Budd, M. D.	Roscoe, Ill.	Machine for cutting bolts	Dec. 24, 1861.
	Buell, Luther H., and Jno. Stevens. (*See* Stevens & Buell.)			
1346	Bullard, E. W.	Barre, Mass.	Machines for turning and spreading hay	May 21, 1861.
1459	Bullard, Ransom.	Litchfield, Mich.	Bee hives	June 4, 1861.
1156	Bullock, Chester, assignor to self and De Forest Weld	Jamestown, N. Y.	Rakes for harvesters	April 23, 1861.
	Bundy, A. O., and G. A. Corser. (*See* Corser & Bundy.)			
1969	Bundy, L. S., and L. F. Edgerton.	Hyde Park, Vt.	Corn shellers	May 14, 1861.
1460	Bunnell, L. S.	Troy, N. Y.	Pipe butts	June 4, 1861.
650	Burch, Lyman D.	Sherburne, N. Y.	Ploughs	Mar. 12, 1861.
39	Burchell, Richard B.	Brooklyn, N. Y.	Window-curtain fixture	Feb. 26, 1861; reissue.
1596	*Burd, Charles H.*	*Roxbury, Mass.*	Telegraphic apparatus	June 11, 1861.
775	*Burdett, D. W.*	Moorefield, Ohio	Removing sawdust as it is formed	Mar. 26, 1861.
2274	Burditt, Riley, assignor to Jacob Esteg and Hatsel P. Green.	Brattleboro', Vt.	Melodeons	Sept. 10, 1861.

1392	Burgess, Edward A., assignor to Blake Bros.	New Haven, Conn.	Cork extractor	May 21, 1861.
48	Burk, John, assignor to Jacob E. Buerk.	Schwenningen, Wurtemberg, Germany.	Watchman's time detector	Jan. 1, 1861.
2331	Burke, Patrick.	Helena, N. Y.	Method of setting posts	Sept. 24, 1861.
	Burkhard, L., and C. F. Albright. (*See* Albright & Burkhard.)			
58	Burleigh, M. C.	Somersworth, N. H.	Stoves (Design)	May 28, 1861.
1461	Burleigh, M. C.	Somersworth, N. H.	Moulding stove griddles	June 4, 1861.
947	Burlingame, A. A.	New York, N. Y.	Apparatus for making extracts under pressure	April 9, 1861.
3	Burnett, Benajah J.	Mount Vernon, N. Y.	Refrigerator	Jan. 1, 1861.
275	Burnett, William, assignor to Robert Burnett.		Steam-pressure gauge	Jan. 29, 1861.
2058	Burnett, William, assignor to Robert Burnett.	Boston, Mass.	Pressure gauge	Aug. 13, 1861.
	Burnham, G., *et al.* (*See* Sellers, Coleman, assignor.)			
2127	Burnham, Wm. H. H., and Samuel B. Pierce.	Homer, N. Y.	Subsoil ploughs	Aug. 27, 1861.
2563	Burr, S.	Cedar Grove, Wis.	Washing machines	Oct. 29, 1861.
420	Burr, Theodore, assignor to self, Augustus Rower, and Parcel Brinkerhoff.	Battle Creek, Mich.	Life-preserving ships	Feb. 12, 1861.
1019	Burr, Theodore, assignor to self, Augustus Rower, and Parcel Brinkerhoff.	Battle Creek, Mich.	Sewing machines	April 9, 1861.
1225	Burr, T., assignor to self, C. L. Burr, S. W. McCrea, and L. H. & P. Brinkerhoff.	Battle Creek, Mich.	Fracture apparatus	April 30, 1861.
	Burrell, S. R., and S. L. Marsden. (*See* Marsden & Burrell.)			
	Burrows, W. A., and A. Odell. (*See* Odell & Burrows.)			
522	Burson, W. W.	Yates City, Ill.	Grain-binding machines	Feb. 26, 1861.
2020	Burt, George E.	Harvard, Mass.	Endless chains and tread of horse powers	Aug. 6, 1861.
2024	Burt, George E.	Harvard, Mass.	Horse powers	Aug. 13, 1861.
	Burton, James. (*See* Brown, Albert H., assignor.)			
	Burton, James. (*See* Brown, A. H., assignor.)			
2564	Burton, N. F.	Plymouth, Ill.	Ploughs	Oct. 29, 1861.
	Burton, Robert, *et al.* (*See* Fowler, John, jr., *et al.*)			
	Bury, W. A., and H. Gray. (*See Gray & Bury.*)			
1597	Bush, Charles, assignor to self and Jas. Wygant.	Newburg, N. Y.	Horse hitching post	June 18, 1861.
2510	Bush, Chauncey.	New York, N. Y.	Camp pan and bakers	Oct. 22, 1861.
2819	Bush, William D.	Fall River, Mass.	Row lock	Dec. 3, 1861.
1676	Bushor, Charles	Philadelphia, Pa.	Machine for loading coal, &c.	July 2, 1861.
864	Buss, Ezra.	Yellow Springs, Ohio.	Clothes dryer	April 2, 1861.
	Butcher, William, jr. (*See* Edward Brown Wilson, ass'r.)			
2422	Butler, Thomas B.	Norwalk, Conn.	Machinery for forming bats for felt cloth	Oct. 8, 1861.
	Butler, W. H., and Thaddeus Selleck. (*See* Selleck & Butler.)			
2631	Butterfield, Elon B.	New York, N. Y.	Breech-loading ordnance	Nov. 5, 1861.
1234	Butterfield, Jesse S.	Philadelphia, Pa.	Breech-loading ordnance	April 30, 1861.
	Butterfield, L. S., *et al.* (*See* Reister, Geo. H., assignor.)			
1039	Butterworth, James C.	Providence, R. I.	Sash fastener	April 16, 1861.
1745	Butterworth, J. C., and B. Arnold	Providence, R. I. / East Greenwich, R. I.	Converting reciprocating into rotary motion	July 9, 1861.
88	Butterworth, Joshua H., assignor to George D. Baldwin.	Dover, N. J.	Door locks	June 4, 1861; reissue.
523	Byrn, Marcus L., and Geo. Clark.	New York, N. Y.	Fruit gatherers	Feb. 26, 1861.
	Cadwalader, E., *et al.* (*See* Reister, George H., assignor.)			
2565	Cady, H. W., J. M. Carpenter, and Gilman K. Winchester	Pawtucket, R. I. / Providence, R. I.	Braiding machines	Oct. 29, 1861.
2820	Cahoon, Charles W.	Portland, Me.	Lamps	Dec. 3, 1861.
2821	Cahoon, Charles W.	Portland, Me.	Lamps	Dec. 3, 1861.
507	Cahoon, Charles W., assignor to James B. Cahoon	Portland, Me.	Lamps	Feb. 19, 1861.
948	Cahoon, C. W.	Portland, Me.	Seeding machines	April 9, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Cain, C. L., and D. M. Gunn. (*See* Gunn & Cain.)			
1464	Cain, Shugar M., and *William Stelfox*	Austin, Texas	Cultivators	June 4, 1861.
1405	Caldwell, J. B.	Chambersburg, Pa.	Water wheels	May 28, 1861.
1040	Caldwell, Samuel & R. W.	Chilicothe, Ohio	Cider mills	April 16, 1861.
2423	Calenberg, H. S.	New York, N. Y.	Piano-forte action	Oct. 8, 1861.
1175	Call, Amos	Springfield, Mass.	Saw set	April 30, 1861.
1046	Call, J. H.	Auburn, N. Y.	Calipers	April 16, 1861.
1114	Callender, Mills L.	New York, N. Y.	Lamps	April 23, 1861.
2769	*Callender, Mills L.*	*New York, N. Y.*	Vapor lamps	Nov. 26, 1861.
104	*Cameron, Joshua F.*	*Livingston county, Mo.*	Subsoil ploughs	Jan. 15, 1861.
105	*Cameron, Joshua F.*	*Bedford, Mo.*	Devices for securing shields to ploughs	Jan. 15, 1861.
1462	Cameron, Samuel	*Pittsburg, Pa.*	Spike machine	June 4, 1861.
22	Cameron, William	Petersburg, Va.	Tobacco presses (Reissue.)	Jan. 15, 1861.
23	Cameron, William	Petersburg, Va	Tobacco presses (Div. of do.)	Jan. 15, 1861.
	Cameron, William. (*See* Lindsay, George, and William Cameron.)			
1970	Camp, E. H.	Jackson, Mich.	Hot-air furnace	Aug. 6, 1861.
1746	Camp, N. W.	Trenton, N. J.	Skates	July 9, 1861
2332	Campbell, Charles F., assignor to self and Joseph Smethurst.	Chenango, N. Y.	Machine for hulling, cleaning, and grinding grain	Sept. 24, 1861.
1226	Campbell, Edwin, assignor to William Heath	Bath, Maine	Edge key	April 30, 1861.
	Campbell, H. S., *et al.* (*See* Clow, Alexander, assignor.)			
58	Campbell, Leonard, assignor to L. Campbell and T. W. Brown.	Columbus, Miss.	Cotton gins (Reissue.)	April 2, 1861.
	Canaday, B. F. (*See* Haworth, B., assignor.)			
	Candee, L., *et al.* (*See* Munger, George, assignor.)			
	Canfield, J. L., *et al.* (*See* McCormick, J. J., assignor.)			
366	Cannon, John R.	New Albany, Ind.	Whips	Feb. 12, 1861.
	Carey, E. H., and D. F. Goodhue. (*See* Goodhue & Carey.)			
2333	Carey, George	Cleveland, Ohio	Processes of manufacturing white lead	Sept. 24, 1861.
1747	Carhart, Jeremiah	New York, N. Y.	Propeller shield	July 9, 1861.
	Carmer, Lewis A. (*See* Drennon, Samuel H., assignor.)			
	Carmichael, C. S., *et al.* (*See* Whitley, John H., assignor.)			
2750	Carner, Ambrose S.	Brooklyn, N. Y.	Camp chests	Nov. 19, 1861.
949	Carnes, Caroline H.	New York, N. Y.	Reels	April 9, 1861.
	Carpenter, James A. (*See* Ornisby & Sumner, assignors.)			
	Carpenter, J. M., *et al.* (*See* Cady, Carpenter & Winchester.)			
2861	Carpenter, Lewis R., assignor to self and Samuel K. Williams.	Lancaster, Ohio	Carriage brakes	Dec. 3, 1861.
	Carpenter, P. B., *et al.* (*See* Leffingwell, Charles H., assignor.)			
1966	Carpenter, Sophia, administratrix of William Carpenter, deceased.	Flushing, N. Y.	Automatic fan and fly brush	July 30, 1861.
222	Carpenter, Tisdale.	Providence, R. I.	Steam-engines	Jan. 29, 1861.
	Carpenter, W. B., and A. Bassford, jr. (See Bassford & Carpenter.)			

1041	Carr, Adam	Paterson, N. J	Low-water alarm for steam boilers	April 16, 1861.
1654	Carr, Nathan, jr., and John Carr	Monmouth, Ill	Cultivators	July 23, 1861.
	Carr & Robertson. (See Reynolds, John P., assignor.)			
2066	Carr, William S	New York, N. Y	Water-closets	Aug. 20, 1861.
524	Carter, C	Franklin Centre, Iowa	Washing machine	Feb. 26, 1861.
70	Carter, Egbert P	China, N. Y	Window sashes	Jan. 8, 1861.
	Carter, J. W., and A. M. George. (See George & Carter.)			
	Carter, M. E., and E. L. Jones. (See Jones & Carter.)			
	Carter, Orrin D. (See Leitch, J. F., assignor.)			
	Carter, Thomas. (See Marshall, E. A., assignor.)			
2470	Carton, John	Utica, N. Y	Parlor heaters	Oct. 15, 1861.
2025	Case, George F	New York, N. Y	Sewing machines	Aug. 13, 1861.
1748	Case, John	Philadelphia, Pa	Canteen	July 9, 1861.
1965	Case, Willington	Waterloo, Iowa	Strainer for coffee and tea pots	July 30, 1861.
525	Cassaday, Robert, and Samuel Clark	Buffalo, N. Y	Snow ploughs	Feb. 25, 1861.
1677	Castor, Thomas	Philadelphia, Pa	Opening railroad car doors	July 2, 1861.
1042	Caswell, John	Syracuse, N. Y	Brick machines	April 16, 1861.
1043	Caswell, John	Syracuse, N. Y	Brick machines	April 16, 1861.
292	Cate, Ebenezer	Franklin, N. H	Horseshoe	Feb. 5, 1861.
776	Cate, Ebenezer	Franklin, N. H	Device for forming horseshoes	Mar. 26, 1861.
777	Cate, Ebenezer	Franklin, N. H	Formation of horseshoe iron	Mar. 26, 1861.
2979	Cauhaupe, P	New Lebanon, N. Y	Making capsules of copaiva	Dec. 24, 1861.
	Caven, William, *et al.* (See Huntley, Hosea, assignor.)			
2128	Cavender, John	Milton, Ohio	Blacksmiths' hearth	Aug. 27, 1861.
2457	Chace, Henry W., assignor to Mervin R Chace	Fall River, Mass	Curtain fixture	Oct. 8, 1861.
1957	Chadwick, Reuben	Nantucket, Mass	Animal trap	July 30, 1861.
68	Chaffee, Charles S, assignor to the Bay State Glass Co	East Cambridge, Mass	Tumblers (Design)	June 25, 1861.
	Chaffee, W. H., and B. P. Foster. (See Foster & Chaffee.)			
2770	Chamberlain, Alfred C	Newport, R. I	Method of growing plants and fruits	Nov. 26, 1861.
	Chamberlain & Co. (See Huntley, Hosea H., assignor.)			
2759	Chamberlain, D. H., assignor to self and Alex. H. Twombly	West Roxbury, Mass	Tubes for surface condensers	Nov. 19, 1861.
313	Chamberlin, F	Berlin, Wis	Seeding machines (Additional improvement)	Feb. 26, 1861.
1855	Chamberlin, Samuel W	Stoneham, Mass	Machine for polishing shoe and boot heels	July 23, 1861.
584	Chambers, Cyrus, jr	Dalton, Ohio	Machines for pasting, cutting, and folding paper	Mar. 5, 1861.
2232	Chandler, Edward R	Cambridgeport, Mass	Blind fastener	Sept. 10, 1861.
	Chandler, George W., *et al.* (See Fuller, Willard M., ass'r.)			
2511	Chapman, W. Z. W. and J. W	New York, N. Y	Carriage curtain fastenings	Oct. 22, 1861.
1971	Chappell, J. W	Loomisville, Mich	Hand corn planters	Aug. 6, 1861.
1507	Chase Amos	North Weare, N. H	Adjustable chair	June 11, 1861.
	Chase, Brother & Co. (See Mauran, Wm. A., assignor.)			
1176	Chase, Lucius C	Boston, Mass	Halter ring	April 30, 1861.
1270	Chase, L. C	Boston, Mass	Mode of stringing sleigh bells	May 14, 1861.
	Chase, North & North. (See Smith & Brown, assignors.)			
2566	Chase, Wesley	Buffalo, N. Y	Camp chest and table combined	Oct. 29, 1861.
2873	Chateau, Louis Jaques	Paris, France	Machine for breaking the subsoil	Dec. 10, 1861.
2501	Chatfield, D. B., and S. M. Dutcher, assignors to Thomas Harrison	La Grange, Wis	Water elevators	Oct. 15, 1861.
778	Chatfield, Thomas W	Utica, N. Y	Refrigerator	Mar. 26, 1861.
950	Chenowith, George E	Baltimore, Md	Raking attachment to harvesters	April 9, 1861.
147	Chesterman, William	Peosta, Iowa	Apparatus for evaporating saccharine juices	Jan. 22, 1861.
1972	Chichester, Henry S	Brunswick, N. Y	Ploughs	Aug. 6, 1861.
1115	Chickering, C. F	New York, N. Y	Square piano-fortes	April 23, 1861.
1749	Child, Richard S	Philadelphia, Pa	Utilization of coal tar	July 9, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
122	Chilson, Gardner	Boston, Mass.	Parlor stove.....(Design)	Nov. 5, 1861.
1750	Chilver, John	Jersey City, N. J	Moulds for moulding pipes for plastic materials	July 9, 1861.
865	Christian, A.	New York, N. Y	Rocking horse	April 2, 1861.
2180	Christensen, C	Brooklyn, N. Y.	Rotary engines	Sept. 3, 1861.
37	Chubbuck, S. E., assignor to self and J. Y. and S. E. Chubbuck, jr.	Roxbury, Mass	Steam radiators.....(Design)	April 30, 1861.
2471	Church, Benjamin S.	New York, N. Y	Water metres	Oct. 15, 1861.
2512	Clancy, Thomas	Chicago, Ill	Cutting trowsers	Oct. 22, 1861.
	Clapp, J. B. (*See* Weight, Enoch, assignor.)			
	Clark *et al.* (*See* Johnston & Bartlett, assignors.)			
	Clark, Albert, and H. B. Middaugh. (*See* Middaugh & Clark.)			
1463	Clark, A. H.	Fond du Lac, Wis.	Shingle machines	June 4, 1861.
1347	Clark, Albert S	Dryden, N. Y.	Sled brake	May 21, 1861.
1044	Clark, C. A.	Pulaski, Iowa	Valves for pumps	April 16, 1861.
	Clark, Daniel, and Robert Cassaday. (*See* Cassaday & Clark.)			
	Clark, Edward C., *et al.* (*See* Post, Simeon S. and Andrew J., assignors.)			
1598	Clark, Franklin, assignor to self and N. Coones	Charlotte, N. Y.	Harvesting machines	June 18, 1861.
367	Clark, George, and Peter T. Elting	Sandusky, Ohio	Bran dusters	Feb. 12, 1861.
	Clark, George, and Marcus L. Byrn. (*See* Byrn & Clark.)			
695	Clark, Hiram	Rochester, N. Y	Skates	Mar. 19, 1861.
1973	Clark, James	Newark, N. J	Retorts for the manufacture of prussiate of potass	Aug. 6, 1861.
	Clark, Joseph B., administrator of David F. Smith. (*See* Smith, David F.)			
	Clark, J. R., and C. A. Shaw. (*See* Shaw & Clark.)			
2181	Clark, Levin P.	Baltimore, Md	Hydrants	Sept. 3, 1861.
293	Clark, Nelson W.	Clarkston, Mich.	Journal boxes	Feb. 5, 1861.
368	Clark, Nelson W.	Clarkston, Mich.	Manufacture of salt	Feb. 12, 1861.
294	Clark, P. C	Reading, Pa	Fountain pens	Feb. 5, 1861.
344	Clark, P. J., assignor to S. S. Clark	West Meriden, Conn.	Skate fastenings	Feb. 5, 1861.
585	Clarke, Samuel	New York, N. Y	Tuning pins for musical instruments	Mar. 5, 1861.
	Clark, Timothy	Redford, N. Y	Safety apparatus for steam boilers.....(Extension)	Aug. 21, 1861.
	Clarke, J., and William Jackson. (*See* Jackson & Clarke.)			
	Clarke, William H., *et al.* (*See* Hobbs, Isaac H., assignor.)			
2472	Claude, Charles	Newark, N. J.	Lock	Oct. 15, 1861.
836	Clegg, John T., assignor to self and Henry Coulter.	Philadelphia, Pa	Lamps	April 2, 1861.
1645	Clegg, Samuel	Putney, county of Surry, England	Gas metres	April 16, 1861.
2467	Clemens, Stulman A.	Rockford, Ill	Machines for sawing firewood	Oct. 29, 1861.
1271	Clement, William T	Northampton, Mass.	Securing handles to hoes	May 14, 1861.
1751	Clifford, Neil	Brooklyn, N. Y.	Vapor lamps	July 9, 1861.
295	Clint, De Witt, and Ives Lynd	Poestenkill, N. Y.	Machines for digging potatoes	Feb. 5, 1861.
2129	Clissold, William	Dudbridge, England	Driving belts	Aug. 27, 1861.
1177	Clough, Isaac S., and Samuel S. Day	Brooklyn, N. Y. / New York, N. Y	Boot and pantaloon jack	April 30, 1861.
1116	Clough, James L	Suffield, Conn	Floor clamp	April 23, 1861.

1097	Clow, Alexander, assignor to self and H. S. Campbell	Waterford, Pa	Bee hives	April 16, 1861.
1046	Clum, Henry A	Auburn, N. Y	Barometer	April 16, 1861.
526	Cluxton, John A	Bentonville, Ohio	Grain measurer and register	Feb. 26, 1861.
	Cobb, G. P., and R. Daniels. (*See* Daniels & Cobb.)			
2233	Coburn, John H	Lowell, Mass	Window sash fastener	Sept. 10, 1861.
2182	Cochran, D. M	Richmond, Ind	Mode of measuring and sacking grain	Sept. 3, 1861.
1407	Cochran, John D	Milford, N. H	Washing machine	May 28, 1861.
1958	Cochran, John D	Milford, N. H	Straw and hay cutters	July 30, 1861.
298	Cochrane, John S	New York, N. Y	Rolling iron shutters	Feb. 5, 1861.
1816	*Codding, C. A*	*Augusta, Mich*	*Cheese press*	July 16, 1861.
2569	Coddington, R., and D. McCall	Kalamazoo, Mich	Ploughs	Oct. 29, 1861.
	Code, Hopper & Gratz. (*See* Roberts, Edward, assignor.)			
586	Coe, B., and M. Goon	Dalton, Ohio	Vessels for evaporating saccharine juices	Mar. 5, 1861.
1804	Coe, Carlos C., assignor to self and George S. Cottman	Rome, N. Y	Vapor lamps	July 9, 1861.
	Coe, Edward. (*See* Stoddard, F. S., assignor.)			
71	Coes, Loring and Aury G	Worcester, Mass	Machine for grinding heads of screw wrenches	Jan. 8, 1861.
297	Coffin, Eleazer	Indianapolis, Ind	Dovetailing machines	Feb. 5, 1861.
1157	Coffin, E. B., assignor to self and A. H. Sylvester	Johnston, R. I	Lanterns	April 23, 1861.
2980	Cohen, M. D	Philadelphia, Pa	Coverings for the head	Dec. 24, 1861.
	Cohenour, John. (*See* Myers, Charles K., assignor.)			
	Coit, C. T., and J. S. Gauson. (*See* Gauson & Coit.)			
148	Colburn, G. F. J	Newark, N. J	Evaporator for hot-air pipes	Jan. 22, 1861.
60	Colburn, G. F. J	Newark, N. J	Evaporator for hot-air pipes (Reissue)	April 2, 1861.
2290	Cole, Gilbert M	Folsom City, Cal	Mode of turning locomotives	Sept. 17, 1861.
2275	Cole, Isaac J., assignor to S. B. Wilson	New York, N. Y	Machine for cutting veneers	Sept. 10, 1861.
2334	Cole, W. T	Reed, Ohio	Approach opening gate	Sept. 24, 1861.
	Collender & Phelan. (*See* Froelich, Ch., assignor.)			
1465	Collier, H. M	Binghamton, N. Y	Washing machine	June 4, 1861.
1678	Colligan, Frank	Buffalo, N. Y	Steam boilers	July 2, 1861.
1553	Collins, Joseph G	Boston, Mass	Mode of securing bottoms to stills	June 18, 1861.
1408	Colton, Aaron	Attica, N. Y	Corn planters	May 28, 1861.
1613	Colton, Martin	Sardinia, N. Y	Spokeshave	June 25, 1861.
	Colver, Allen M. (*See* Johnson, Chester L., assignor.)			
2892	Colvin, Richard	Baltimore, Md	Bee hives	Dec. 3, 1861.
72	Combs, William	Duquoin, Ill	Corn planters	Jan. 8, 1861.
1235	Comfort, Samuel J	Morrisville, Pa	Sewing machines	May 7, 1861.
527	Comstock, Cicero	Milwaukie, Wis	Rotary cultivators	Feb. 26, 1861.
1178	Comstock, Cicero, and Carlos Glidden	Milwaukie, Wis	Propelling wheels	April 30, 1861.
	Comstock, George R. (*See* Ransom, A., assignor.)			
1117	Comtesse, Francis	New York, N. Y	Device for protecting the hull of vessels from cannon balls	April 23, 1861.
	Condict, Nat an W., jr. (*See* Stevens, Wm. J., assignor.)			
1409	Cone, T. S., and H. S. Potter	Oneida, Ill	Cultivators	May 28, 1861.
1974	Conger, Enoch	Milmore, Ohio	Machine for curvilinear sawing	Aug. 6, 1861.
	Conklin, Henry R., and Peter W. Neefus. (*See* Short, Joseph, assignor.)			
4	Connel, J. M	Newark, Ohio	Water elevators	Jan. 1, 1861.
	Connel, J. M., *et al.* (*See* Gamble, D. R., assignor.)			
	Conover, J. A., and B. P. Crandell. (*See* Crandall & Conover.)			
1179	Conover, S. B., and Marshall Spring	New York, N. Y	Machine for digging potatoes	April 30, 1861.
	Conrath, S., and F. Boissard. (*See* Boissard & Conrath.)			
1047	Conroy, Loughlin	New York, N. Y	Street sweeping machines	April 16, 1861.
2568	Conroy, L	New York, N. Y	Street sweeping machines	Oct. 29, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
528	Converse, Rufus J.	Coventry, N. Y.	Washing machines	Feb. 26, 1861.
1679	Converse, William F.	Harrison, Ohio	Bed bottom	July 2, 1861.
2291	Conway, William H.	Harrison, Md	Gaff for vessels' sails	Sept. 17, 1861.
1466	Cook, Francis E	Guilford, Ohio	Machine for hulling and cleaning clover seed	June 4, 1861.
1410	Cook, George	Bristol Station, Ill.	Portable capstans	May 28, 1861.
2570	Cook, George H.	New Brunswick, N. J	Mode of separating compounds of iron from the water of salt wells or springs.	Oct. 23, 1861.
2513	Cook, Henry	Manchester, Eng	Hoop skirts. (Patented in England Oct. 25, 1860.)	Oct. 22, 1861.
2690	Cook, Ransom	Saratoga Springs, N. Y.	Fan blower	Nov 12, 1861.
2689	Cook, Ransom	Saratoga Springs, N. Y.	Exhaust fan	Nov. 12, 1861
1348	Cook, W. C	Appleton, Wis.	Bed spring	May 21, 1861.
59	Cooke, C. W	Waterloo, N. Y.	Balmoral skirt (Design)	May 28, 1861.
2571	Cooke, James C., assignor to William Wilcox & Co.	Middletown, Mass.	Liquid metres	Nov. 5, 1861.
696	Cooley, John	Tafton, Wis.	Corn planters	Mar. 19, 1861.
2514	Cooley, Truman	Brockport, N. Y.	Feathering paddle-wheels	Oct. 22, 1861.
	Coones, N., *et al.* (See Clark, Franklin, assignor.)			
1975	Cooper, Charles W.	Brooklyn, N. Y.	Manufacture of glue	Aug. 6, 1861.
149	Cooper, George	Thompsonville, Conn	Needles	Jan. 22, 1861.
780	Cooper, George M.	Litchfield, Mich	Press for packing wool	Mar. 26, 1861.
1048	Cooper, George W	Palmyra, N. Y.	Ploughs	April 16, 1861.
369	Cooper, Howell	Watertown, N. Y.	Heater for cheese vats	Feb. 12, 1861.
1272	Cooper, Ira	Saybrook, Ohio	Cultivators	May 14, 1861.
951	Cooper, Joseph B	Brooklyn, N. Y.	Ploughs	April 9, 1861.
1411	Cooper, Lewis	Philadelphia, Pa	Sewing machines	May 28, 1861.
1976	Cooper, Samuel D.	Hartford, Conn.	Fire-alarm apparatus	Aug. 6, 1861.
697	Cope, N., and William Hodgson	Cincinnati, Ohio	Valve	Mar. 19, 1861.
99	Cope, Nathan, and William Hodgson	Cincinnati, Ohio	Butterfly valves (Reissue)	July 2, 1861.
952	Copeland, George	North Gray, Maine	Looms	April 9, 1861.
436	Copeland, Salem	Worcester, Mass.	Guards or fingers for reaping or mowing machines	Feb. 19, 1861.
867	Copeley, Humphrey E.	Waterbury, Conn	Photographic medals	April 2, 1861.
1906	Coppage, Francis C., assignor to Judson R. Osgood, Samuel F. Smith, and Samuel Allamon.	Terre Haute, Ind.	Machine for turning plough-handles	July 23, 1861.
651	Corduan, Joseph	Brooklyn, N. Y.	Lining journal boxes	Mar. 12, 1861.
1349	Cornelius, Robert	Philadelphia, Pa	Electrophorus	May 21, 1861.
1350	Cornelius, Robert	Philadelphia, Pa	Frictional electric machine	May 21, 1861.
1457	Cornelius, Robert	Philadelphia, Pa	Method of lighting gas by electricity	June 4, 1861.
	Cornell, Samuel G	Buffalo, N. Y.	Lead-pipe machinery (Extension)	Aug. 12, 1861.
	Cornell, M., *et al.* (See Smoote, Wm. H., assignor.)			
	Cornen, Peter P. (See Mackay, Walter G., assignor.)			
3030	Corner, Edwin	Columbus, Ohio	Beehives	Dec. 24, 1861.
	Corse, A. C., and J. Shavor. (See Shavor & Corse.)			
1817	Corser, G. A, and A. O. Bundy	Clappville, Mass	Skate	July 16, 1861.
2234	Cory, C.	Luna, Ind	Apparatus for evaporating saccharine fluids	Sept. 10, 1861.
1614	Cory, John F	New York, N. Y.	Bit-stock	June 25, 1861.
	Cottman, *et al.* (See Carlos C. Coe, assignor.)			

1856	Couch, M. G.	Odessa, N. Y.	Machines for raking and loading hay	July 23, 1861.
	Coulter, Henry. (*See* Clegg, John T., assignor.)			
781	Cowan, B. F.	Memphis, Tenn.	Fire-places	Mar. 26, 1861.
	Cowles, Sidney, and Edward Smith. (*See* Smith & Cowles.)			
70	Cox, George A.	Brooklyn, N. Y.	Formers for bonnet fronts (Reissue)	April 23, 1861.
2118	Cox, Henry F., and Alexander Miller, assignors to Henry F. Cox.	Jersey City, N. Y.	Machinery for cutting corks	Aug. 20, 1861.
698	Cox, John, and John A. Throp	Three Rivers, Mich.	Cultivators	Mar. 19, 1861.
2515	Cox, S. W., and J. H. Trowbridge	New Haven, Conn.	Trace fastening	Oct. 22, 1861.
	Cox, Whiteman & Cox. (*See* Smith & Brown, assignors.)			
	Cox, Woodward & McCord. (*See* McCord, Wm., assignor.)			
437	Cragg, J., and Samuel Archbold	Baltimore, Md. / Washington, D. C. / Binghamton, N. Y.	Surface condensers for steam-engines, &c.	Feb. 19, 1861.
2473	Craig, William	Newport, Ky.	Cut-off for oscillating engine	Oct. 15, 1861.
1236	Craig, Waldo P.	Brooklyn, N. Y.	Cotton press	May 7, 1861.
869	Cramer, James A.	New York, N. Y.	Boxes for carriage hubs	April 2, 1861.
868	Crandall, B. P., and J. A. Conover	New York, N. Y.	Children's carriages	April 2, 1861.
106	Crandall, Jesse A.	New York, N. Y.	Perambulators or children's carriages	Jan. 15, 1861.
298	Crandall, Jesse A.	New York, N. Y.	Rocking horse	Feb. 5, 1861.
567	Crandall, J. A., assignor to Mary Crandall	New York, N. Y.	Toy horse	Feb. 26, 1861.
1118	Crane, Albert O.	Hoboken, N. J.	Boots and shoes	April 23, 1861.
	Crane, H. M. (*See* Hargraves, T. C., assignor.)			
1977	Crane, Isaac C.	Bronson, Mich.	Spading machines	Aug. 6, 1861.
2458	Crane, Moses G., assignor to Edward G. Rogers	Roxbury, Mass.	Tower clocks	Oct. 8, 1861.
1818	Crane, Samuel G.	Rochester, N. Y.	Combination of camp bed and chair	July 16, 1861.
1978	Crapo, Philip & Henry E.	Bridgewater, Mich.	Hoes	Aug. 6, 1861.
870	Crawford, Benjamin	Pittsburg, Pa.	Arrangement of feedwater heater pipes of steam-engines	April 2, 1861.
	Crawley, C., and J. Goodspeed. (*See* Goodspeed & Crawley.)			
652	Creager, Jonathan	Cincinnati, Ohio	Machines for turning irregular forms	Mar. 12, 1861.
2467	Creamer, William G.	Brooklyn, N. Y.	Ventilator for railroad cars	Aug. 20, 1861.
	Creasy, F., and William W. Austin. (*See* Austin & Creasy.)			
2235	Creager, Dewitt C.	Chicago, Ill.	Hydrants	Sept. 10, 1861.
	Creswell, Samuel James. (*See* Kneass Strickland, assignor.)			
1591	Crewzbaur, Robert.	Travis county, Texas.	Air chamber	June 18, 1861.
871	Crites, Jonah	Orville, Ohio.	Horse rakes	April 2, 1861.
1907	Crocker, Horace T., assignor to self and W. H. Barnes	New London, Conn.	Steam pressure gauge	July 23, 1861.
782	Cromelien, Rowland	New York, N. Y.	Railroads	Mar. 26, 1861.
1119	Crompton, George	Worcester, Mass.	Looms	April 23, 1861.
2516	Crompton, George	Worcester, Mass.	Looms	Oct. 22, 1861.
699	Cronk, Munson C.	Auburn, N. Y.	Bottle stoppers	Mar. 19, 1861.
2026	Cronk, M. C.	Auburn, N. Y.	Churns	Aug. 13, 1861.
1351	Crooke, John J.	New York, N. Y.	Manufacture of tin foils	May 21, 1861.
	Crosby, Barlow & Renton. (*See* Renton, Crosby & Barlow.)			
2571	Crosby, R. R., and J. Harris	Boston, Mass.	Clothes wringer	Oct. 29, 1861.
2474	Crose, George G.	Schoolcraft, Mich.	Device for making corn furrows	Oct. 15, 1861.
2236	Cross, A. S.	Ripon, Wis.	Planes	Sept. 10, 1861.
1959	Crossett, Truman	North San Juan, Cal.	Machine for drilling rocks	July 30, 1861.
1352	Crowell, Henry G.	Roxbury, Mass.	Pumps	May 21, 1861.
438	Cumberland, William W.	Newark, N. J.	Hat blocks	Feb. 19, 1861.
783	Cummings, G. N.	Meriden, Conn.	Stilts	Mar. 26, 1861.
	Cummings, G. W., and J. A. Benedict. (*See* Benedict & Cummings.)			
568	Cummings, Perley D., assignor to D. H. Furbish	Portland, Maine	Sowing machines	Feb. 26, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2130	Curran, James	Kirkwood, N. Y	Application of brakes to driving wheels of head powers	Aug. 27, 1861.
	Currier, H. M., *et al.* (*See* Stevens, Joseph, assignor.)			
2691	Currier, James M	Newburyport, Mass.	Substitute for pins in bowling alleys	Nov. 12, 1861.
2313	Curtis, Frederick, assignor to Edward H. Ashcroft and John B. Alley.	Newton, Mass	Breech-loading fire-arms	Sept. 17, 1861.
1158	Curtis, George S., assignor to self and Thomas B. Bryan	Chicago, Ill	Skate fastenings	April 23, 1861.
953	Curtis, H., and A. Tufts	Charlestown, Mass	Door alarm	April 9, 1861.
1658	Custer, J. D., assignor to William McNiece	Norristown, Pa.	Cutting saw teeth	June 25, 1861.
653	Cutting, J. A	Boston, Mass	Aquariums	Mar. 12, 1861.
1615	Cutler, Abner, and N. Jenkins	New York, N. Y	Toy pistols	June 25, 1861.
	Cutler, Abner, and T. A. Jebb. (*See* Jebb & Cutler.)			
1353	Cutler, Calvin	Tonawanda, N. Y	Device for hiving bees	May 21, 1861.
	Cutter, Tower & Co. (*See* Tower, Levi L., assignor.)			
1180	Cutler, William D.	Millbury, Mass	Shearing sheep skins	April 30, 1861.
	Cutts, Alonzo K., *et al.* (*See* Nash, Jefferson, assignor.)			
	Cutts, Alonzo K. (*See* Nash, Jefferson, assignor.)			
2027	Dagron, René P. P.	Paris, France	Portable microscopes	Aug. 13, 1861.
1979	Dahlgren, John A	Philadelphia, Pa	Cast-iron ordnance	Aug. 6, 1861.
1980	Dahlgren, John A	Philadelphia, Pa	Cast-iron ordnance	Aug. 6, 1861.
1981	Dahlgren, John A	Philadelphia, Pa	Cast-iron ordnance	Aug. 6, 1861.
1982	Dahlgren, John A	Philadelphia, Pa	Projectiles for rifled ordnance	Aug. 6, 1861.
2068	Dalton, H. N	Jacksonville, Cal.	Seeding machines	Aug. 20, 1861.
1237	Dalton, Joseph	Brooklyn, N. Y	Knitting machines	May 7, 1861.
	Dalzell & Bennett. (*See* Bennett & Dalzell.)			
	Damm, Jacob, and E. J. Gerdom. (*See* Gerdom & Damm.)			
	Damon, Lyman E., *et al.* (*See* Johnson, Stephen, assignor.)			
	Dane, Osgood, *et al.* (*See* Bridgman, George W., assignor.)			
1680	Danforth, D. A., and William A. Wilkinson	Elkhart, Ind	Stump extractors	July 2, 1861.
1181	Daniels, Commodore	Barnwell C. H., S. C	Apparatus for training horses or mules to rack	April 30, 1861.
954	Daniels, Ezekiel	Oswego, N. Y	Fracture bedsteads	April 9, 1861.
150	Daniels, Reuben	Woodstock, Vt.	Machines for reducing fibrous materials	Jan. 22, 1861.
654	Daniels, R., and G. P. Cobb	Woodstock, Vt.	Bee hives	Mar. 12, 1861.
345	Daniels, Phylander, assignor to self and S. H. Barnes	Le Roy, N. Y	Tanning leather	Feb. 5, 1861.
1120	Danks, John	Troy, N. Y	Burners for purifying gas	April 23, 1861.
2092	Darby, Asa L	White Creek, N. Y	Mowing machines	Sept. 17, 1861.
1468	Dare, George	Auburn, N. Y	Mode of hanging window sash	June 4, 1861.
1960	Dare, Thomas	Osceola, Iowa	Culinary boiler	July 30, 1861.
223	Darling, Fenner	North Blackstone, Mass	Pockets of wearing apparel	Jan. 29, 1861.
2069	Dascomb, Charles H.	Cleveland, Ohio	Cane and seat combined	Aug. 20, 1861.
	Daskam, Samuel. (*See* Rogers, Isaac, assignor.)			
1032	Davidson, Hunter	United States navy	Hook for attaching and detaching boats from their davits	April 9, 1861.
2517	Davies, Henry	Portsmouth, Ohio	Apparatus for heating air for blast furnaces, &c	Oct. 22, 1861.
2552	Davies, Henry	Portsmouth, Ohio	Swings	Oct. 29, 1861.
2771	Davis, Alexander S	Boston, Mass	Mode of attaching blocks to belts of printing apparatus	Nov. 26, 1861.
530	Davis, Augustus B	Philadelphia, Pa	Scale beams	Feb. 26, 1861.

529	Davis, Augustus B.	Philadelphia, Pa.	Weighing apparatus	Feb.	26, 1861.
2993	Davis, Augustus B.	Philadelphia, Pa.	Platform scales	Sept.	17, 1861.
2010	Davis, Albert R.	Syracuse, N. Y.	Spoke machines	Aug.	20, 1861.
587	Davis, E., and Alonzo Palmer	Hudson, Mich.	Grain separators	Mar.	5, 1861.
2551	Davis, John, assignor to Patrick H. Flood.	Elmira, N. Y.	Hold-back for carriages and other vehicles	Oct.	22, 1861.
421	Davis, Joseph, assignor to self and Jesse A. Locke.	East Wilton, N. H.	Carding machines	Feb.	12, 1861.
2958	Davis, Joseph, assignor to J. Noone and William Earl, jr.	Wilton, N. H.	Carding engines	Dec.	17, 1861.
	Davis, S., and C. F. Anderson. (*See* Anderson & Davis.)				
1857	Davis, S. M., assignor to Andrew L. Haskell	Lawrence, Mass.	Tents	July	23, 1861.
224	Davis, T. G., and J. Punchus.	Elkhart, Ind.	Stump extractors	Jan.	29, 1861.
2823	Davis, Theodore D.	Syracuse, N. Y.	Mode of attaching carriage shafts	Dec.	3, 1861.
299	Davis, Thomas S.	Jersey City, N. J.	Pistons and piston-valves for steam-engines	Feb.	5, 1861.
1049	Davison, John S.	Cranberry, N. J.	Faucets	April	16, 1861.
784	Dawson, E. S., and A. Weeks.	Syracuse, N. Y.	Omnibus register	Mar.	26, 1861.
955	Dawson, William L.	Lynchburg, Va.	Soaps	April	9, 1861.
2692	Day, Lloyd, and Milton and Andrew Mercer.	Carroll county, Md. Howard county, Md.	Railroad rails	Nov.	12, 1861.
	Day, Samuel S., and Isaac S. Clough. (*See* Clough & Day.)				
1238	Dean, George R.	Mayville, N. Y.	Printing press	May	7, 1861.
	Dean, J. E. P., *et al.* (*See* Munger, George, assignor.)				
3031	Dean, John	Worcester, Mass.	Mats for daguerreotypes, &c	Dec.	24, 1861.
1401	De Barry, Julius.	Germany.	Cigar machines. (Patented in England, November 1, 1859)	May	28, 1861.
2131	De Bassans, E., and A. Brudenn	France.	Manufacture of stearic acid	Aug.	27, 1861.
1449	De Bolle, John M., assignor to self and Andrew J. Husted and Edwin Hand.	Philadelphia, Pa.	Valves for hose-pipes	May	28, 1861.
3020	De Brame, J. A., assignor to self and Jeremiah Gurney	New York, N. Y.	Revolving ordnance	Dec.	24, 1861.
1030	De Brame, J. A., assignor to self and Benj. Gurney	New York, N. Y.	Skates	April	9, 1861.
1105	De Brame, J. A.	New York, N. Y.	Baby-jumper	April	16, 1861.
1491	De Brame, J. A., assignor to self and Benj. Gurney	New York, N. Y.	Skates	June	4, 1861.
1681	De Brame, J. A.	New York, N. Y.	Fire-arms	July	2, 1861.
3021	De Brame, J. A., assignor to self and Jeremiah Gurney.	New York, N. Y.	Breech-loading ordnance	Dec.	24, 1861.
	Decamp, J., and L. Lelong. (*See* Lelong & Decamp.)				
1412	Decker, Frederick.	Ostrander, Ohio.	Clover harvesters	May	28, 1861.
1050	Deckmann, William	Canton, Ohio.	Hay rakes	April	16, 1861.
107	De Forest, Thomas B.	Birmingham, Conn.	Instrument for cleaning lamp chimneys	Jan.	15, 1861.
872	De Forest, Thomas B.	Birmingham, Conn.	Skirts	April	2, 1861.
956	De Forest, Thomas B.	Birmingham, Conn.	Thread winding guides	April	9, 1861.
	De Garmo, D., and J. Rulofson. (*See* Rulofson & De Garmo.)				
2672	Degener, Fred. Otto, assignor to self and Peter Weiler.	New York, N. Y.	Cylinder printing press	Nov.	5, 1861.
2824	Degenhardt, G. C. Louis.	Treskow, Pa.	Apparatus for purifying acid water for steam boilers	Dec.	3, 1861.
370	De Graw, Henry N.	Green Island, N. Y.	Bootjack	Feb.	12, 1861.
	Deihm, John R., and Jasper Snell. (*See* Snell & Deihm.)				
2475	De La Montanya, M.	San Francisco, Cal.	Blacksmith's portable forge	Oct.	15, 1861.
1961	Delaire, George Ernest Camille.	Paris, France.	Analine colors	July	30, 1861.
2913	Delastatius, Alfred, assignor to Andrew Rankin.	Philadelphia, Pa.	Manacles	Dec.	10, 1861.
2874	De Long, John.	Munroe, Wis.	Washing machine	Dec.	10, 1861.
1752	De Manjuet, J. A.	Paris, France.	Machines for twisting silk	July	9, 1861.
1962	Dement, John.	Dixon, Ill.	Ploughs	July	30, 1861.
647	Deming, H. D., and P. G. Walker, assignors to P. G. Walker and Wesley Pitts.	Delmar, Pa.	Animal traps	Mar.	5, 1861.
2923	Denham, David	Virden, Ill.	Portable field fence	Dec.	17, 1861.
429	Denison, C. H.	Brattleboro', Vt.	Felloe machine	Feb	19, 1861.
2573	Denison, C. H.	Brattleboro', Vt.	Mode of attaching hubs to axles	Oct.	29, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2924	Dennis, J. H.	Louisville, Ky	Mode of collecting fares on street railroads	Dec. 17, 1861.
2772	Dennis, J. H.	Louisville, Ky	Equalizing beams and levers in railroad cars	Nov. 26, 1861.
2335	Dennis, William	Providence, R. I.	Composition for soap	Sept. 24, 1861.
5	Dennison, A. L.	Waltham, Mass	Watches	Jan. 1, 1861.
757	Depew, George W., assignor to Horton, Depew & Son	Peekskill, N. Y.	Ploughs	Mar. 19, 1861.
579	Derr, Daniel	Bellefonte, Pa	Railroad car brakes	Feb. 26, 1861.
1753	Derroni, Andrew	Paterson, N. J	Portable hut	July 9, 1861.
1754	Devlan, P. S.	Elizabethport, N. J.	Car brakes	July 9, 1861.
103	Devlan, Patrick S	Elizabethport, N. J.	Journal boxes (Reissue)	July 9, 1861.
104	Devlan Patrick, S	Elizabethport, N. J	Journal boxes (Div. of reissue)	July 9, 1861.
	Devoe, Reynolds & Pratt. (*See* Jas. F. Drummond, ass'r.)			
1616	Dewey, Augustus W.	Boston, Mass	Water elevators	June 25, 1861.
1983	Dexter, Elisha	Holmes's Hole, Mass	Refrigerators	Aug. 6, 1861.
	Dexter, L., jr., and J. Gorham and G. Thurber. (*See* Gorham, Thurber & Dexter.)			
	Dexter, L., jr., and J. Gorham and G. Thurber. (*See* Gorham, Thurber & Dexter)			
	Dexter, L., jr., and J. Gorham and G. Thurber. (*See* Gorham, Thurber & Dexter.)			
	De Zeyk, Albert J., *et al.* (*See* Kollinsky, Ehrlich & De Zeyk.)			
6	Dialogue, John H	Camden, N. J.	Valve motion for steam-engines	Jan. 1, 1861.
1682	Dibben, Frank	New York, N. Y	Method of amalgamating ores of the precious metals	July 2, 1861.
873	Dice, Samuel S	Stark county, Ohio	Cross-cut sawing machines	April 2, 1861.
785	Dick, Alexander	Buffalo, N. Y.	Bread slicer	Mar. 26, 1861.
14	Dickerman, Elliot	Richmond, Vt.	Clothes wringer (Reissue)	Jan. 8, 1861.
2071	Dickerman, Elliot	Middlefield, Conn.	Clothes frame	Aug. 20, 1861.
2825	Dickey, Julius C	Saratoga Springs, N. Y.	Machinery for crushing and pulverizing quartz	Dec. 3, 1861.
225	Dickinson, Charles G	Poughkeepsie, N. Y.	Harvesters	Jan. 29, 1861.
2875	Dickinson, H. H.		Attachment to kerosene lamps	
2183	Dickinson, John	Brooklyn, N. Y.	Diamond protector for dressing millstones	Sept. 3, 1861.
2184	Dickinson, John	Brooklyn, N. Y.	Mounting glaziers' diamonds	Sept. 3, 1861.
	Dickinson, John	Brooklyn, N. Y.	Grooved rule and self-adjusting diamond for cutting glass	Oct. 1, 1861.
	Dickinson, R., and Joseph C. Fuller. (*See* Jennings, Lewis, assignor.)			
1984	Deihl, Jacob, and William Wilson	Brooklyn, Ohio	Cider mills	Aug. 6, 1861.
786	Dilts, Milton	Columbia City, Ind	Water wheels	Mar. 26, 1861.
655	Dimpfel, F. P	Philadelphia, Pa	Friction gearing for machinery	Mar. 12, 1861.
311	Dinsmore, J. V	Auburn, Me	Metallic heels for boots and shoes (Additional imp't)	Jan. 15, 1861.
7	Dithridge, Edward	Pittsburg, Pa	Pots for glass making	Jan. 1, 1861.
2424	Dithridge, Edward and Edward D	Pittsburg, Pa	Lamp chimney	Oct. 8, 1861.
2632	Dixson, A. H	San Francisco, Cal.	Grain separators	Nov. 5, 1861.
151	Doane, N. E.	Hannibal, Mo.	Weighing carts or wagons	Jan. 22, 1861.
2294	Dobbs, John	Albany, N. Y.	Paper-ruling machines	Sept. 17, 1861.
	Dodd, A. S. (*See* Bartram, Walker B., assignor.)			

2826	Dodge, George H	Camden, N. J.	Hinges	Dec. 3, 1861.
	Dodge, Hezekiah. (*See* Rice, Samuel G., assignor.)			
1098	Dodge, James, assignor to self and David Blake	Waterford, N. Y.	Hardening saw plates	April 16, 1861.
	Dodge, Jacob L. (*See* Morrisett, James J., assignor.)			
	Dodge, Jacob L. (*See* Morrisett, James J., assignor.)			
656	Dodge, Levi	Waterford, N. Y.	Forming and punching articles of irregular form	Mar. 12, 1861.
923	Dodge, Levi, assignor to self and David Blake	Cohoes, N. Y.	Shear for the manufacture of axes	April 2, 1861.
440	Dodge, Paul F. and William S.	West Cambridge, Mass	Taking photographic pictures by artificial light	Feb. 19, 1861.
516	Dodge, Thomas H.	Washington, D. C.	Mowing machines	Feb. 19, 1861.
1163	Dodge, Thomas H.	Washington, D. C.	Letter paper	April 23, 1861.
	Dodge, Thomas H. (*See* Kells, P. H., assignor.)			
	Dodge, Thomas H. (*See* Kells, P. H., assignor.)			
	Dodge, Thomas H. (*See* Kells, P. H., assignor.)			
	Dodge, Thomas H. (*See* Kells, P. H., assignor.)			
	Dodge, Thomas H. (*See* Bartlett, S. S., assignor.)			
	Dodin, Joseph, and J. O. Whitcomb. (*See* Whitcomb, J. O., assignor.)			
371	Dodsworth, Robert	St. Louis, Mo.	Hemp brakes	Feb. 12, 1861.
1819	Doig, A	Brooklyn, N. Y.	*Cooling frictional surfaces*	July 16, 1861.
8	Dolbeare, Caleb H.	Boston, Mass.	Lamps	Jan. 1, 1861.
441	Donaldson, Richard	Mount Nebo, Pa.	Lime-kilns	Feb. 19, 1861.
	Donnell, G. W., *et al.* (*See* Wheeler, Grant J., and others.)			
372	Doolittle, O., and N. Eldridge	Dansville, N. Y.	Ditching machines	Feb. 12, 1861.
	Dorsey, Bibb & Needham. (*See* Bibb, Needham & Dorsey.)			
1239	Dotterer, Davis H	*Memphis*, Tenn	Journal boxes	May 7, 1861.
1413	Doty, James and Asa H	West Falls, N. Y.	Washing machine	May 28, 1861.
588	Doubleday, William E., and Samuel H. Lyon	Brooklyn, N. Y.	Die for pressing hats	Mar. 5, 1861.
	Doubleday, William E., and Samuel H. Lyon. (*See* Lyon & Doubleday.)			
2574	Doudna, L. M	Amherst, N. H	Hand mowing machines	Oct. 29, 1861.
2185	Dougal, David, and William Truxal	Butler, Pa	Bee hives	Sept. 3, 1861.
1755	Dougherty, Andrew	New York, N. Y.	Machines for damping paper	July 9, 1861.
90	Dougherty, Andrew	Brooklyn, N. Y.	Cards (Design)	July 23, 1861.
	Dougherty, John B., and J. H. Lawler. (*See* Lawler & Dougherty.)			
2465	Doughty, James H	Adamsville, Ohio	Churns	Oct. 8, 1861.
1820	Doughty, John W.	New York, N. Y.	Feed-water apparatus for steam boilers	July 16, 1861.
2295	Douglas, Benjamin	Middletown, Conn	Pumps	Sept. 17, 1861.
	Douglas, W. and B. (*See* Lane, John W., assignor.)			
1508	Douglass, Darwin De Forest	Springfield, Mass	Window blinds	June 11, 1861.
1933	Douglass, William	Westport, Mo.	Hand corn planters	July 30, 1861.
	Dow, Lorenzo, and Algernon K. Johnson. (*See* Johnson & Dow.)			
874	Downer, A. H	New York, N. Y.	Hemmer and finger shield for hand sewing	April 2, 1861.
2575	Downing, Noah	Brooklyn, N. Y.	*Safety belts*	Oct. 29, 1861.
2876	Dows, Gustavus D.	Boston, Mass	Soda apparatus combined with an ice cutter	Dec. 10, 1861.
73	Doyle, John James	New York, N. Y.	Hoisting device	Jan. 8, 1861.
1756	Doyle, L. H.	Waterloo, Iowa	Cultivators	July 9, 1861.
1121	Drake, Eli P.	Greenbush, N. Y.	Boring machine	April 23, 1861.
	Drake, William F., *et al.* (*See* Hall, Ezra G., assignor.)			
59	Draper, Francis	East Cambridge, Mass.	Fountain inkstands (Reissue)	April 2, 1861.
1985	Draper, J. E.	Northville, Mich	Tool for clinching horseshoe nails	Aug. 6, 1861.
1592	Dray, Andrew	Portland, Oregon	Device for levelling millstones	June 18, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2459	Drennon, Samuel H., assignor to Lewis A. Carmer	New York, N. Y.	Heads for double seaming	Oct. 8, 1861.
442	Drew, H. C.	Stockbridge, Mich.	Capstan for ploughs	Feb. 19, 1861.
2673	Drew, Reuben W., assignor to A. B. Ely	Abington, Mass	Sewing machines	Nov. 5, 1861.
957	Dripps, William	Coatsville, Pa.	Water wheels	April 9, 1861.
	Driscoll, Jeremiah W., and Wm. G. Schmidlin. (*See* Schmidlin & Driscoll.)			
	Driscoll, J. W., and Wm. Schmidlin. (*See* Schmidlin & Driscoll.)			
1393	Drummond, James F., assignor to Raynolds, Devoe & Pratt	New York, N. Y.	Paint cans	May 21, 1861.
108	Dryden, W. A.	Monmouth, Ill.	Cultivators	Jan. 15, 1861.
1330	Ducharme, Moses, assignor to self and George Ducharme	Cohoes, N. Y.	Locks	May 14, 1861.
2925	Duchemin, Watson	Charlottetown, Prince Edward's Island	Hoisting block	Dec. 17, 1861.
	Dudley, C. T. (*See* Bartram, Walker B., assignor.)			
373	Dunbrack, C. H.	Jacksonville, Ill.	Water elevators	Feb. 12, 1861.
1592	Duncan, Eli.	West Hilton, Ohio.	Fruit-drying apparatus	June 18, 1861.
2633	Dungan, Lewis	Philadelphia, Pa.	Apparatus for preserving and discharging malt liquors	Nov. 5, 1861.
	Dunham, Henry R.	Flushing, N. Y.	Connecting side pipes with steam chests...(Extension)	Mar. 19, 1861.
700	Dunham, John	Detroit, Mich.	Steam boilers	Mar. 19, 1861.
1509	Dunn, W. C. and J.	New York, N. Y.	Carriage bodies	June 11, 1861.
2336	Dunshee, Andrew T.	McKeesport, Pa.	Water filters	Sept. 24, 1861.
443	Dunwald, Peter	Corning, N. Y.	Churns	Feb. 19, 1861.
9	Durand, John H.	Niles, Mich.	Clothes dryer	Jan. 1, 1861.
1821	Durant, A. P.	Atlanta, Ill.	Seeding cultivators	July 16, 1861.
	Durant, Charles W. (*See* Seeley, Samuel J., assignor.)			
	Dutcher, S. M., and D. B. Chatfield. (*See* Chatfield & Dutcher.)			
374	Dutton, Rufus	Dayton, Ohio	Harvesting machines	Feb. 12, 1861.
701	Dutton, Rufus	Dayton, Ohio	Mowing machines	Mar. 19, 1861.
120	Dutton, Rufus	Dayton, Ohio	Harvesters ..... (Reissue)	Aug. 27, 1861.
300	Duvall, Jules	New Orleans, La.	Defecating saccharine liquids	Feb. 5, 1861.
301	Dwight, Solomon	Byron, Ill.	Cultivators	Feb. 5, 1861.
1934	Dyer, George W.	Derby, Conn.	Skates	July 30, 1861.
1394	Dyer, John A., assignor to self and H. C. Knowlton	Newburg, Ohio	Machines for cutting chair backs	May 21, 1861.
2926	Eagle, R. N.	United States Army.	Stirrups and their covers	Dec. 17, 1861.
3040	Eagle, Robert N.	United States Army.	Saddles	Dec. 24, 1861.
638	Earle, John E., assignor to self and Samuel Hathaway	Brooklyn, N. Y.	Sewing machines	Mar. 5, 1861.
1659	Earle, John E., assignor to self and Samuel Hathaway.	Brooklyn, N. Y.	Machines for making tape trimming	June 25, 1861.
152	Earle, Thomas	Worcester, Mass.	Sewing machines	Jan. 22, 1861.
	Earl, William, jr., and J. Noone. (*See* Davis, Joseph, assignor.)			
2877	Early, Jacob, and J. B. Parvin	Hightstown, N. J.	Seeding machines	Dec. 10, 1861.
657	Eastham, A. S.	Wharton, Texas.	Cotton cleaner	Mar. 12, 1861.
2634	Eastman, H. G.	Poughkeepsie, N. Y.	Penman's assistant	Nov. 5, 1861.
958	Eastman, Henry W.	Baltimore, Md.	Portable folding bedstead	April 9, 1861.

1617	Eaton, A. K.	New York N. Y.	Process of manufacturing malleable cast-iron and steel, and in the deoxydizing of iron ores.	June 25, 1861.
2377	Ebbitt, William	New York, N. Y.	Frogs for railroad tracks	Oct. 1, 1861.
302	Eberhardt, Otto	Brooklyn, N. Y.	Flower pots	Feb. 5, 1861.
	Eckel, John J. (See Schuyler, Isaac S., assignor.)			
	Eckel, John J. (See Schuyler, Isaac S., assignor.)			
2027	Eddy, R. S., and A. O. Miles	Nashua, N. H.	Locks	Dec. 17, 1861.
	Edgerson, L. F., and L. S. Bundy. (See Bundy & Edgerson.)			
1273	Edson, N. T.	New Orleans, La.	Wheelwright's machine	May 14, 1861.
1258	Edwards, D. M., and Joseph Horner	New York, N. Y. / New Brunswick, N. J. / Beloit, Wis.	Windlasses	May 7, 1861.
10	Eggelston, C.		Seeding machines	Jan. 1, 1861.
	Egolf, Henry, et al. (See Matthews, J., assignor.)			
	Ehlin, E., et al. (See Lofvendahl, Joseph, assignor.)			
	Ehrlich, J., et al. (See Kollinsky, Ehrlich, & De Zeyk.)			
226	Ehrman, Samuel	Mount Joy, Pa.	Hinge	Jan. 29, 1861.
153	Eikenberry, Lewis	Easton, Pa.	Iron bridges	Jan. 22, 1861.
1051	Eikenberry, Lewis	Philadelphia, Pa.	Valve arrangement	April 16, 1861.
2731	Eikenberry, Lewis	Philadelphia, Pa.	Steam slide and cut-off valves	Nov. 19, 1861.
2023	Eiswald, T. G.	St. Louis, Mo.	Boots and shoes	Aug. 13, 1861.
	Elbreg, George, and John Myers. (See Myers & Elbreg.)			
1122	Elder, Stewart.	Buffalo, N. Y.	Spring bed	April 23, 1861.
2072	Eldred, N. J.	Elk Horn, Wisconsin	Eave troughs	Aug. 20, 1861.
	Eldridge, N., and O. Doolittle. (See Doolittle & Eldridge.)			
875	Ellard, William	Woburn, Mass.	Machines for finishing leather	April 2, 1861.
1274	Ellicott, James P.	Washington, D. C.	Apparatus for irrigating streets	May 14, 1861.
1757	Elliot, J. D.	Grafton, Mass.	Machines for folding cloth	July 9, 1861.
2378	Elliot, William H.	Plattsburg, N. Y.	Revolving fire-arm	Oct. 1, 1861.
2732	Elliot, William H.	Plattsburg, N. Y.	Pumps for oil wells	Nov. 19, 1861.
2028	Elliot, William H.	Plattsburg, N. Y.	Base-pin and rammer of revolving pistols	Dec. 17, 1861.
	Elliott, A. B. (See Moulson, John, assignor.)			
2073	Elliott, Harrison	Boston, Mass.	Screw propeller	Aug. 20, 1861.
787	Elliott, Joseph S.	Philadelphia, Pa.	Gearing for gas metre	Mar. 26, 1861.
2296	Elliott, Joseph S.	Philadelphia, Pa.	Register for gas metres	Sept. 17, 1861.
2393	Elliott, K. H., and James Brown	Morrisville, Vt.	Revolving clothes dryer	Nov. 12, 1861.
	Ellis, John. (See Olmstead & Ellis, assignors.)			
1986	Ellis, John.	Detroit, Mich.	Gate latch	Aug. 6, 1861.
2230	Ellis, Joseph W., M. D.	Augusta, Maine.	Tent ventilator	Dec. 17, 1861.
	Ellis, Thomas. (See Bolles, Solomon E., assignor.)			
2518	Ellmaker, William.	New Holland, Pa.	Self-acting brakes for carriages	Oct. 22, 1861.
414	Elmore, Benjamin H.	Richmond, Ind.	Corn planters	Feb. 19, 1861.
	Elting, Peter T., and George Clark. (See Clark & Elting.)			
33	Elward, John H., assignor to Martin A. Howell, jr.	Ottawa, Ill.	Mole ploughs (Reissue)	Feb. 19, 1861.
	Ely, Alfred B. (See Mann, Charles G., assignor.)			
	Ely, Alfred B. (See Vittum & Stevens, assignors.)			
	Ely, Alfred B. (See Moore, George R., assignor.)			
	Ely, Alfred B. (See Drew, Reuben W., assignor.)			
876	Ely, Charles R.	Sheldon, Vt.	Process of reducing iron castings and preparing cast-iron patterns.	April 2, 1861.
	Ely, William N. (See Stevens, E. M., assignor.)			
	Emanuel, M., jr., and W. R. Thomas. (See Thomas & Emanuel.)			
11 23	Emerick, John A.	Philadelphia, Pa.	Stopping and starting railroad cars	April 23, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1124	Emerson, Chauncey W.	Albany, N. Y.	Cultivators	April 23, 1861.
2914	Emerson, Daniel L., assignor to Mary Manny	Rockford, Ill.	Harvesters	Dec. 10, 1861.
2425	English, B. C.	Hartford, Conn	Cartridge cases	Oct. 8, 1861.
	English, Samuel, and Jonas Heartt. (*See* Heartt & English, assignors, &c.)			
2412	Erpelding, Lambert, assignor to Cyrus H. McCormick	Chicago, Ill.	Reaping and mowing machines	Oct. 1, 1861.
123	Eshleman, J. Albert	Philadelphia, Pa.	Cravat (Design).	Nov. 12, 1861.
	Estabrook, Strong & Luce. (*See* Luce, C. O., assignor.)			
	Esteg, Jacob, and Hartel P. Green. (*See* Burditt, Riley, assignor.)			
109	Esterly, George	Whitewater, Wis.	Hand rake for reaping machines	Jan. 15, 1861.
154	Esterly, George	Whitewater, Wis.	Harvesters	Jan. 22, 1861.
155	Esterly, George	Whitewater, Wis.	Harvesters	Jan. 22, 1861.
	Eter, Samuel. (See Walcott, H. S., assignor.)			
2119	Evans, H. W., assignor to self and C. C. Jenkins	Philadelphia, Pa.	Equalizing the action of springs in governors	Aug. 20, 1861.
788	Evans, James W.	New York, N. Y.	Railroad car-springs	Mar. 25, 1861.
789	Evans, James W.	New York, N. Y.	Cushion springs	Mar. 26, 1861.
2576	Evans, John	New Haven, Conn	Machine for heading carriage spring heads	Oct. 29, 1861.
1823	Evans, Joseph	San José, Cal.	Pruning shears	July 16, 1861.
156	Evans, O. C.	New York, N. Y.	Lamps	Jan. 22, 1861.
844	Evans, O. C., assignor to self and L. D. Towsley	New York, N. Y.	Fastening of metallic bands for cotton bales	Mar. 26, 1861.
790	Evans, Thomas	Watkins, N. Y.	Valves	Mar. 26, 1861.
1182	Evans, Thomas W.	Philadelphia, Pa.	Telegraphic cable	April 30, 1861.
55	Everitt, Elisha E.	Philadelphia, Pa.	Bedstead fastening (Reissue.)	Mar 26, 1861.
	Ewhanks, A., and A. C. Stiles. (*See* Stiles, A., assignor.)			
2029	Exton, Adam	Trenton, N. J.	Rolling pin and docker for biscuit	Aug. 13, 1861.
2132	Exton, Adam	Trenton, N. J.	Biscuit machine	Aug. 27, 1861.
110	Faber, Eberhard	New York, N. Y.	Trade-mark for lead pencils (Design.)	Oct. 8, 1861.
2030	Faber, Johann L.	Stein, Bavaria	Pencils	Aug. 13, 1861.
2694	Face, Lewis	Covington, Ohio	Washing and wringing machine	Nov. 12, 1861.
702	Fagan, Bernard	New Britain, Conn.	Quilting frame, table, and clothes dryer combined	Mar. 19, 1861.
1594	Fahrney, John & Samuel	Washington county, Md.	Seed drills	June 18, 1861.
703	Fairbanks, Leonard O.	Nashua, N. H.	Bevel attachment for bench planes	Mar. 19, 1861.
2227	Fairchild, L. S., and W. B. Sturgess	Cleveland, Ohio. Troy, N. Y.	Gates and shutes for water wheels	Sept. 10, 1861.
	Falconnet, E. F., and C. Williams. (*See* Williams & Falconnet.)			
1275	Fales, Squire M.	Baltimore, Md.	Refining and smelting furnaces	May 14, 1861.
1276	Fales, Squire M.	Baltimore, Md.	Refining and puddling furnaces	May 14, 1861.
2519	Falke, Oscar, and Edward Simon	New York, N. Y.	Arrangement of metallic plates for vulcanizing rubber and other gums	Oct. 22, 1861.
110	Fanckboner, A.	Schoolcraft, Mich.	Grain separators	Jan. 15, 1861.
2635	Fargusson, J.	Dubuque, Iowa.	Grain separators	Nov. 5, 1861.
959	Farrar, Willard T.	Concord, Mass.	Adjustable ladder hook	April 9, 1861.
1159	Farrell, Joseph O., assignor to self and W. S. & J. H. Hills.)	Boston, Mass.	Tailboards of wagons	April 23, 1861.

960	Faver, Peter	New York, N. Y	Mill picks	April 9, 1861.
2878	Fawkes, J. W	Decatur, Ill	Steam ploughs	Dec. 10, 1861.
73	Fay, Josiah C	Troy, N. Y	Plates of a cooking stove (Design.)	July 16, 1861.
2186	Fay, L	Cincinnati, Ohio	Edging machine	Sept. 3, 1861.
	Fay, L. N., *et al.* (*See* Mason, William, assignor.)			
791	Feagan, Z	Palmyra, Mo	Hemp carts	Mar. 26, 1861.
1277	Fearing, I. J	South Weymouth, Mass	Buttonhole cutters	May 14, 1861.
157	Felch, Isaac N	Hollis, Maine	Hub machine	Jan. 22, 1861.
1227	Felker, Valentine, assignor to self and Rufus Jones	Carmel, Maine	Ploughs	April 30, 1861.
2939	Felter, Philo S	Cincinnatus, N. Y	Guard attachment for locks	Dec. 17, 1861.
2827	Felthousen, Henry C	Buffalo, N. Y	Signal lanterns	Dec. 3, 1861.
58	Ferguson, James E	Micanopy, Fla	Cotton gins	Jan. 1, 1861.
81	Ferry, L. M., assignor to James T. Ames, assignor to Emerson Gaylord.	Chicopee, Mass	Hose coupling (Reissue.)	May 21, 1861.
1414	Ferry, William M., jr	Terrysburg, Mich	Saw mills	May 28, 1861.
227	Fessenden, Abijah	Boston, Mass	Device for straining wood saws	Jan. 29, 1861.
2426	Feyh, Henry	Columbus, Ohio	Hose coupling	Oct. 8, 1861.
445	Field, Samuel T	Worcester, Mass	Process for manufacturing wooden eave troughs and pipes	Feb. 19, 1861.
303	Fielemeyer, Joseph	Philadelphia, Pa	Apparatus for cutting ice	Feb. 5, 1861.
2981	Fink, Jeremiah	Baldwinsville, N. Y	Cultivators	Dec. 24, 1861.
2074	Finken, Gustavus	Brooklyn, N. Y	Apparatus for manufacturing cube sugar	Aug. 20, 1861.
2520	Finken, Gustavus	Brooklyn, N. Y	Manufacture of cube sugar	Oct. 22, 1861.
1510	Finnegan, R., and A. F. W. Schulte	New York, N. Y	Pressure gauge	June 11, 1861.
2931	Finnell, M. A	New York, N. Y	Thermometers	Dec. 17, 1861.
2636	Fischel, David K	Lancaster, Ohio	Weather strips and fasteners for doors	Nov. 5, 1861.
531	Fischer, Peter	Fort Adams, Miss	Crosscut sawing machines	Feb. 26, 1861.
375	Fish, Warren L	Newark, N. J	Guides for sewing machines	Feb. 12, 1861.
	Fisher, Francis, *et al.* (*See* Weiland, G., assignor.)			
1240	Fisher, Henry	Alliance, Ohio	Mowing machines	May 7, 1861.
2725	Fisher, Henry S	Newburg, Pa	Means of sealing preserve cans	Nov. 5, 1861.
1987	Fisher, John Kenrick	New York, N. Y	Locomotives and steam carriages for common roads	Aug. 6, 1861.
2075	Fisher, Thomas N., and J. H. Zinn	Newport, Pa	Stoves	Aug. 20, 1861.
2338	Fisler, Thomas	Camden, N. J	Portable manger	Sept. 10, 1861.
2314	*Fitts, R. B., assignor to self, E. P. Thoonburgh, and William Stacey.*	*Philadelphia, Pa*	Feed bag for horses and other animals	Sept. 17, 1861.
2733	Fitts, R. B	Philadelphia, Pa	Army, feed, and water buckets	Nov. 19, 1861.
1546	Fitts, Samuel L., assignor to C. & G. C. Winchester	Ashburnham, Mass	Boring machines	June 11, 1861.
2428	Fitzgerald, Elisha	New York, N. Y	Mixing dough	Oct 8, 1861.
961	Flagg, George C	Tanktown, Ohio	Gates	April 9, 1861.
	Flanagan, James. (*See* Williams, E. C., assignor.)			
13	Flanders, Moses R	Parishville, N. Y	Grain cradles (Reissues)	Jan. 8, 1861.
304	Fleming, Charles	Ypsilanti, Mich	Instruments for measuring lumber	Feb. 5, 1861.
589	Fleming, Daniel	Brooklyn, N. Y	Brushes	March 5, 1861.
2133	Fletcher, Matthew	Louisville, Ky	Feed cutters	Aug. 27, 1861.
446	Fleury, Anthony L	Philadelphia, Pa	Tools used in the manufacture of iron	Feb. 19, 1861.
1822	Fleury, Anthony L	Philadelphia, Pa	Manufacture of iron	July 16, 1861.
	Flood, Patrick H. (*See* Davis, John, assignor.)			
	Florence, Thomas B. (*See* Hope, Wm. H., assignor.)			
	Florence, Thomas B. (*See* Hope, Wm. H., assignor.)			
	Floyd, W., and P. Kane. (*See* Kane & Floyd.)			
2379	Foden, Thomas	Holyoke, Mass	Stop motion for power looms	Oct. 1, 1861.
2337	Folger, Charles R	Cincinnati, Ohio	Loop-catches for sewing machines	Sept. 24, 1861.
	Folsom, G. F., and J. S. Shailer. (*See* Shailer & Folsom.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2933	Foote, H. C	Jersey City, N. J	Portable farm fence	Dec. 17, 1861.
2674	Forbush, Walter H., assignor to Eliakim B. Forbush	Buffalo, N. Y	Hammock	Nov. 5, 1861.
532	Ford, Nelson	Cambridge, Wis	Seeding machines	Feb. 26, 1861.
962	Ford, William C	West Salem, Ohio	Corn planters	April 9, 1861.
533	Foreman, Daniel	Tottenville, N. Y	Crosscut sawing machines	Feb. 26, 1861.
2031	Forrest, James	Manchester, N. Y	Cattle guard for railways	Aug. 13, 1861.
1278	Forrest, Joseph	New York, N. Y	Machine for breaking sugar	May 14, 1861.
2338	Forrist, A., and C. A. Wheeler, assignors to themselves, W. H. Goudy, and Henry Rogers.	Mount Vernon, Iowa	Boot patterns	Sept. 24, 1861.
422	Fossler, C. W., assignor to self and J. Balsburgh	Freeport, Ill	Seeding machines	Feb. 12, 1861.
1683	Foster, Andrew	New York, N. Y	Bedstead	July 2, 1861.
2502	Foster, B. P., and W. H. Chaffee, assignors to Wm. H. Chaffee	Flint, Mich	Ditching and tile-layingmachine	Oct. 15, 1861.
2059	Foster, D. P., assignor to self and L. L. Hill	Shelburne Falls, Mass	Saw set	Aug. 13, 1861.
2828	Foster, John H	Detroit, Mich	Apparatus for steering vessels by water	Dec. 3, 1861.
1595	Foster, John T	Jersey City, N. J	Harrows	June 18, 1861.
1684	Foster, Joseph S	Vallicita, Cal	Machine for felling trees	July 2, 1861.
2315	Foster, Samuel, assignor to E. W. Thompson	Bristol, Maine	Rudder case for navigable vessels	Sept. 10, 1861.
2297	Fouchier, Victor	Paris, France	Mills for grinding grain	Sept. 17, 1861.
158	Fowler, F. F	Crane Township, Ohio	Machine for gathering hay	Jan. 22, 1861.
1935	Fowler, John, and W. L. Walter	Homer, N. Y	Churns	July 30, 1861.
1022	Fowler, John, jr., assignor to Wm. Penn Tatham	Leeds, England	Machinery for ploughing and tilling land by steam	April 9, 1861.
1021	Fowler, John, jr., assignor to same	Leeds, England	Machinery for ploughing and tilling land	April 9, 1861.
1023	Fowler, John, jr., and D. Gregg, assignors to same	Leeds, England	Machinery for ploughing and tilling land	April 9, 1861.
1806	Fowler, John, jr., and William Worby, assignors to William Penn Tatham	Havering, England / Ipswich, England	Machines for tilling land by steam	July 9, 1861.
1805	Fowler, John, jr., assignor to William Penn Tatham	London, England	Machinery for ploughing and tilling land	July 9, 1861.
1908	Fowler, John, jr. / Robert Burton / David Greig and / Jeremiah Head, assignors to Wm. Penn Tatham	Cornhill, England / Kingsland, England / New Cross, England / Newcastle on Tyne, England	Drums or pulleys to prevent ropes from slipping in machinery for ploughing and tilling land by steam.	July 23, 1861.
	Fowler, Joseph, and P. M. Bacon. (*See* Bacon & Fowler)			
	Fowler, M. Field, and Thomas Harbottle. (*See* Harbottle & Fowler.)			
704	Fowler, Thaddeus	Seymour, Conn	Device for coating pins	Mar. 19, 1861.
2982	Fowler, Thaddeus	Richmond Valley, N. Y	Marking brush	Dec. 24, 1861.
	Fox, D. H., and G. J. Willson. (*See* Willson & Fox.)			
	Fox, G. W., and R. P. Henry. (*See* Henry & Fox.)			
1052	Foy, James M	Fountain Green, Ill	Corn planters	April 16, 1861.
2239	Fraer, Peter	West Springfield, Pa	Cattle pump	Sept. 10, 1861.
2240	France, Joseph A	Cobleskill, N. Y	Breech-loading ordnance	Sept. 10, 1861.
	Francis, Smith & Wells. (*See* Scypes & Smith, assignors.)			
	Francis, Smith & Wells. (*See* Scypes & Smith, assignors.)			
	Francis, Smith & Wells. (*See* Sailor, S. H., assignor.)			
	Francis, Smith & Wells. (*See* Sailor, S. H., assignor.)			
1183	Francis, Samuel W	New York, N. Y	Match boxes	April 30, 1861.

2637	Francisco, Henry	White Water, Wis	Spring tooth for cultivators	Nov. 5, 1861.
	Frank, F., and J. Stuber. (*See* Stuber & Frank.)			
2241	Frank, William	Mount Sterling, Ill	Locks of fire-arms	Sept. 10, 1861.
2829	Frankfurth, Henry	Utica, N. Y	Baby-jumper and supporter	Dec. 3, 1861.
2242	Franklin, Bradley W	New York, N. Y	Caoutchouc vulcanizing in single-chamber apparatus	Sept. 10, 1861.
2460	Franklin, Bradley W., assignor to American Hard Rubber Company.	New York, N. Y	Vulcanizing caoutchouc	Oct. 8, 1861.
376	Fraser, E. C	New York, N. Y	Machine for cutting and punching sheet metal	Feb. 12, 1861.
1125	Fraser, Edwin J	Kansas, Mo	Ploughs	April 23, 1861.
534	Frazee, Lawrence F	Tottenville, N. Y	Clothes frame	Feb. 26, 1861.
705	Frazee, Lawrence F	Tottenville, N. Y	Ash sifters	Mar. 19, 1861.
1834	Frazier, John Q. A	Piqua, Ohio	Harvesters	July 16, 1861.
924	Freeman, T. J., assignor to self and E. T. Freeman	Heyworth, Ill	Machine for cutting standing cornstalks	April 9, 1861.
1354	Freeman, W	Mount Carmel, Conn	Lamps	May 21, 1861.
2380	Frees, P. M., and Zenus King	Cincinnati, Ohio	Trussed beam for bridges, &c	Oct. 1, 1861
2187	Freligh, Isaac	Bardstown, Ky	Machines for dressing stone	Sept. 3, 1861.
228	French, Aaron F	Franklin, Vt	Machine for sawing shingles from the block	Jan. 29, 1861.
1858	French, A. H	Pittsfield, Ill	Water elevators	July 23, 1861.
111	French, C. C	West Stockbridge, Mass	Corn shellers	Jan. 15, 1861.
1053	French, Raymond	Seymour, Conn	Joints of railroad rails	April 16, 1861.
	French, R., and Lyman Smith. (*See* Smith & French.)			
1241	Frey, Alexander	New York, N. Y	Looms	May 7, 1861.
1859	Frickinger, Frederick	Schodack, N. Y	Piano-forte action	July 23, 1861.
146	Frink, Isaac P	Newark, N. J	Reflectors (Reissue)	Dec. 24, 1861.
2381	Frodsham, Bridge, and Morris Levett	New York, N. Y	Knapsack and bed in combination	Oct. 1, 1861.
2773	Frodsham, Bridge	New York, N. Y	Materials for mattresses, cushions, &c	Nov. 26, 1861.
1807	Frolich, Ch., assignor to Phelan & Collender	New York, N. Y	Tivoli table	July 9, 1861.
2012	Frost, Henry A., assignor to H. S. & D. H. Whittemore	Worcester, Mass	Apple parer	Aug. 6, 1861.
2760	Frost, W. E., assignor to Washburn & Moen	Clinton, Mass	Skirt wire	Nov. 19, 1861.
2983	Fryatt, Horatio N	Belleville, N. J	Refining and crystallizing sugar	Dec. 24, 1861.
1618	Fryatt, Horatio N	Belleville, N. J	Decolorizing sirups	June 25, 1861.
1214	Frye, Solomon	Monongahela City, Pa	Door lock	April 30, 1861.
159	Fuller, E. W	Martinsville, La	Cultivators	Jan. 22, 1861.
	Fuller, Joseph C., and R. Dickinson. (*See* Jennings, Lewis, assignor.)			
	Fuller & Safely. (*See* Parkhurst, Orson, assignor.)			
1758	Fuller, William Coles	London, England	Gun carriages	July 9, 1861.
1492	Fuller, Willard M., assignor to self and Geo. W. Chandler	Chicago, Ill	Sewing machines	June 4, 1861.
1054	Fulton, Samuel	Conshohocken, Pa	Moulds for casting pipe	April 16, 1861.
1056	Fulton, Samuel	Conshohocken, Pa	Core carriages	April 16, 1861.
1355	Fulton, Samuel	Conshohocken, Pa	Casting pipe	May 21, 1861.
1936	Funston, A. C	Philadelphia, Pa	Slate pencil sharpener	July 30, 1861.
	Furbish, D. H. (*See* Cummings, Perley D., assignor.)			
112	Furman, George W	Brooklyn, N. Y	Mode of relieving steam cylinders of the water of condensation.	Jan. 15, 1861.
2830	Furnas, Wilkinson	Ononwa, Iowa	Ploughs	Dec. 3, 1861.
2298	Furniss, F. H	Cleveland, Ohio	Railroad car ventilators	Sept. 17, 1861.
2076	Gabel, Nelson	Gratis, Ohio	Churn	Aug. 20, 1861.
160	Gabrion, G. G., and N. B. Whiting	Copenhagen, N. Y	Stave jointer	Jan. 22, 1861.
1860	Gage, Charles W	Homer, N. Y	Mode of attaching thills to carriage axles	July 23, 1861.
1759	Gage, Henry A	Manchester, N. H	Machine for addressing newspapers	July 9, 1861.
1215	Gallacher, John McAulay	Roxbury, Mass	Construction of gas retorts	April 30, 1861.
1660	Gamble, D. R., assignor to self and J. M. Connel	Newark, Ohio	Washing machine	June 25, 1860.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1554	Gano, L. H	Ripon, Wis	Buggy tops	June 18, 1861.
1279	Ganson, J. S., and C. T. Coit	Buffalo, N. Y	Fireplaces	May 14, 1861.
	Gantier, L. P., and John Hastings. (*See* Hastings & Gantier.)			
646	Garcia, Carlos, administrator of Felix Garcia, deceased	New Orleans, La	Decalcifying liquids	Mar. 5, 1861.
792	Gardiner, Perry G	New York, N. Y	Cotton presses	Mar. 26, 1861.
877	Gardiner, Perry G	New York, N. Y	Carriage springs	April 2, 1861.
706	Gardner, Charles	Hoosick, N. Y	Cultivators	Mar. 19, 1861.
2831	Gardner, G. W	Troy, N. Y	Percussion shells	Dec. 3, 1861.
	Gardner, H. R. (*See* Hill, B. B., assignor.)			
1057	Gargan, Louis X	Paris, France	Feed-water apparatus for steam boilers	April 16, 1861.
447	Garner, L. P	Ashland, Pa	Machine for breaking coal	Feb. 19, 1861.
377	Garrett, C. C	Spring Hill, Ala	Seed planters	Feb. 12, 1861.
2339	Garrick, Thomas	Providence, R. I	Knapsacks	Sept. 24, 1861.
569	Gary, George and Samuel P., assignors to themselves and Joseph E. Gary.	Oshkosh, Wis	Printing presses	Feb. 26, 1861.
1937	Gaskill, W. J	Apalachin, N. Y	Device for adjusting the rake of muly saws	July 30, 1861.
2299	Gately, Dennis C	Newtown, Conn	Process of vulcanizing caoutchouc and other substances	Sept. 17, 1861.
	Gates, Nelson, *et al.* (*See* Rosencrantz, E. D., assignor.)			
	Gates, Philetus W	Chicago, Ill	Dies for cutting screws (Extension.)	May 6, 1861.
2577	Gates, J. R	Louisville, Ky	Cider and wine mills	Oct. 29, 1861.
2638	Gates, Thomas	Worcester, Mass	Refrigerator	Nov. 5, 1861.
1596	Gatling, Richard J	Indianapolis, Ind	Machine for paring and pulverizing the soil	June 18, 1861.
1058	Gatty, George	New York, N. Y	Curtain fixtures	April 16, 1861.
1685	Gault, John	Boston, Mass	Projectiles for ordnance	July 2, 1861.
1861	Gault, John, assignor to William H. Moore	Boston, Mass	Coal-hole covers	July 23, 1861.
2300	Gault, John	Boston, Mass	Combination of eraser and eraser sharpener	Sept. 17, 1861.
2476	Gault, John	Boston, Mass	Setting vault lights	Oct. 15, 1861.
707	Gaunt, William E., and Botsford B. Hinman	Keokuk, Iowa	Grain separators	Mar. 19, 1861.
	Gauntlett, John. (*See* Mix, E. M. & J. E., assignors.)			
	Gaylord, Emerson. (*See* Ferry, L. M., assignor.)			
229	Gaylord, E. L	Terrysville, Conn	Trunk locks	Jan. 29, 1861.
2340	Gedney, George W. B	New York, N. Y	Air-gun	Sept. 24, 1861.
1760	Geissenhainer, Charles P	Pittsburg, Pa	Cooking stoves	July 9, 1861.
2695	Gengembre, H. P	Tarentum, Pa	Apparatus for distilling coal oils	Nov. 12, 1861.
1469	George, A. M., and J. W. Carter	Nashua, N. H. / Brooklyn, N. Y.	Carpet cleaner	June 4, 1861.
878	George, Robert W	Richmond, Maine	Washing machine	April 2, 1861.
230	George, W. F	New York, N. Y	Hair crimpers	Jan. 29, 1861.
1242	Gedom, Emerick J., and Jacob Damm	Albany, N. Y	Trusses	May 7, 1861.
1280	Getchell, John S	Machias, Maine	Capstan and windlass combined	May 14, 1861.
1761	Gibbs, John	Boston, Mass	Shade fixtures	July 9, 1861.
276	Gibbs, John B., assignor to self and John Pearson	Boston, Mass	Skate fastening	Jan. 29, 1861.
2134	Gibbs, John C	Middleborough, Mass	Ships' scraper	Aug. 27, 1861.
2776	Gibbs, Kendall	Berwick, Maine	Cattle fastenings	Nov. 26, 1861.

41	Gibbs, Samuel W., assignor to John F. Rathbone	Albany, N. Y	Cooking stove (Design.)	May 7, 1861.
39	Gibbs, Samuel W., assignor to John F. Rathbone	Albany, N. Y	Stove (Design.)	May 7, 1861.
40	Gibbs, Samuel W., assignor to John F. Rathbone	Albany, N. Y	Parlor stove (Design.)	May 28, 1861.
62	Gibbs, Samuel W., assignor to John F. Rathbone	Albany, N. Y	Parlor stove (Design.)	May 7, 1861.
93	Gibbs, Samuel W., assignor to Abbott & Noble	Albany, N. Y	Cap and base for a parlor stove (Design.)	Aug. 13, 1861.
793	Gibson, A. T	Worcester, Mass	Skates	Mar. 26, 1861.
305	Gibson, F. M	Chelsea, Mass	Joints of felloes in carriage wheels	Feb. 5, 1861.
	Gifford, E. M., and R. H. Peck. (*See* Peck & Gifford.)			
	Gifford, E. M. (*See* Peck, Royal H., assignor.)			
231	Gilbert, N. S	Lockport, N. Y	Preserve cans	Jan. 29, 1861.
2934	Gilbert, N. S	Lockport, N. Y	Preserve jar	Dec. 17, 1861.
879	Gilbert, S. P	Racine, Wis	Hollow augers	April 2, 1861.
963	Gilbert, Tilmon	Natchez, Miss	Cotton presses	April 9, 1861.
1619	Gill, Mathew	Battle Creek, Mich	Life or safety ships	June 25, 1861.
2477	Gillespie, J. P	New Albany, Ind	Metallic cartridges	Oct. 15, 1861.
113	Gillet, Homer	Lyndon, Ill	Mole ploughs	Jan. 15, 1861.
2984	Gilliland, D. C	Brownsville, Ohio	Cultivators	Dec. 24, 1861.
1415	Gilman, Jesse	South Merrimack, N. H	Feeding and gigging back movement in sawing machines	May 28, 1861.
448	Gingrich, Joseph K	North Annville, Pa	Ploughs	Feb. 19, 1861.
114	Girard, F	New York, N. Y	Picture frames (Design.)	Oct. 22, 1861.
2478	Giraud, P	New York, N. Y	Mode of preserving butter	Oct. 15, 1861.
794	Giraudat, A	New York, N. Y	Windmills	Mar. 26, 1861.
2135	Giraudat, A	New York, N. Y	Motive power	Aug 27, 1861.
2382	Gittens, J. K., jr	Green Point, N. Y	Caps	Oct. 1, 1861.
2879	Glenn, C. J, C. Ball, and U. S. Hackett	Unadilla, Mich	Stump extractors	Dec. 10, 1861.
	Glidden, Carlos, and Cicero Comstock. (*See* Comstock & Glidden.)			
140	Glomensky, Antoine, Albert E. Powers, administrator of	Lansingburg, N. Y	Floor cloth (Design.)	Nov. 19, 1861.
74	Glover, Joseph H	Glasgow, Ky	Mill gearing	Jan. 8, 1861.
	Glover, Robert, *et al.* (*See* Richardson, Geo. W., assignor.)			
232	Glover, Warren	New England Village, Mass	Treadle attachment for sewing machines	Jan. 29, 1861.
	Glynn, H. W., *et al.* (*See* Weitman, Christian, assignor.)			
	Goble & Richards. (*See* Williamson, George, assignor.)			
	Godfrey, B. D. (*See* How, Jarvis, assignor)		(Disclaimer)	June 17, 1861.
964	Godley, Anderson	Ithaca, N. Y	Refrigerator and water-cooler	April 9, 1861.
2969	Goeway, George, assignor to self and E. S. Marsh	New York, N. Y	Churns	Dec. 17, 1861.
378	Goff, Silas M	East Addison, Vt	Cultivators	Feb. 12, 1861.
1825	Gold, Benjamin F	Reading, Pa	Cooking stove	July 16, 1861.
2935	Going, Stephen R	Brooklyn, N. Y	Skates	Dec. 17, 1861.
449	Goldenblum, R., and F. Steiner	East Hampton, Mass	Composition for water-proofing leather	Feb. 19, 1861.
65	Goodale, E. W	Clinton, Mass	Machine for making envelopes (Reissue)	April 16, 1861.
306	Goodale, Samuel D	Cincinnati, Ohio	Stereoscopes	Feb. 5, 1861.
1281	Goodhue, D. F, and E. H. Carey	Cincinnati, Ohio	Wheel carriages	May 14, 1861.
114	Goodman, J., and Samuel Rote	Lancaster, Pa	Seeding cultivators	Jan. 15, 1861.
	Goon, M., and B. Coe. (*See* Coe & Goon.)			
2383	Goodrich, Horace	Stoneham, Mass	Printing presses	Oct. 1, 1861.
658	Goodrich, W. B	Ashley, Ohio	Apparatus for evaporating sugar solutions	Mar. 12, 1861.
1493	Goodspeed, Isaac, assignor to self, A. A. Goodspeed, and E. S. Stebbins.	Norwich, Conn	Cork machines	June 4, 1861.
1826	Goodspeed, J., and C. Crawley	Norwich, Conn	Guide for bombs, lances, and other projectiles	July 16, 1861.
	Goodwin, Richard D., *et al.* (*See* Williams, Wm, assignor.)			
307	Goodyear, Henry B	New Haven, Conn	Method of relieving geographical outlines on moulded elastic globes.	Feb. 5, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2696	Goodyear, Henry B	New Haven, Conn	Suspending telegraphic wires	Nov. 12, 1861.
1356	Goodyear, R. A., and L. A. Sprague	Binghamton, N. Y	Skates	May 21, 1861.
1126	Gordon, George R	Kansas, Mo	Printing press	April 23, 1861.
	Gordon, J. P. (*See* Hammer & Gordon)			
1470	Gore, Ezekiel	Belvidere, Ill	Washing machine	June 4, 1861.
24	Gore, John	Brattleborough, Vt	Harvesters (Reissue)	Jan. 15, 1861.
1762	Gorgas, Charles R., and Wm. H. Smith	Wooster, Ohio	Furniture caster	July 9, 1861.
75	Gorham, J., G. Thurber, and L. Dexter, jr	Providence, R. I.	Spoon and fork handles (Design)	July 16, 1861.
74	Gorham, J., G. Thurber, and L. Dexter, jr	Providence, R. I.	Handles of table-spoons and forks (Design)	July 16, 1861.
106	Gorham, J., G. Thurber, and L. Dexter, jr	Providence, R. I.	Spoons (Design)	Sept. 3, 1861.
1988	Gorham, M. L	Winnebago Station, Ill	Seeding machines	Aug. 6, 1861.
1228	Gornall, Richard, assignor to self and William J. Hooper	Baltimore, Md	Machine for making bullets	April 30, 1861.
	Gorton, James. (*See* Snider & Gorton.)			
880	Goslee, O. W	Glastenbury, Conn	Cultivators	April 2, 1861.
	Goudy, W. H., *et al.* (*See* Forrist & Wheeler, assignors.)			
881	Goulard, E	New York, N. Y	Apparatus for buoying vessels	April 2, 1861.
508	Gould, John Henry, assignor to Henry E. Wallace	Philadelphia, Pa	Packing for steam-engines	Feb. 19, 1861.
1216	Gould, J. W. & P. W	Evans, N. Y	Washing machine	April 30, 1861.
	Gould, William, *et al.* (*See* Reese, Gould & Lake)			
1055	Goulding, George	Watertown, N. Y	Spinning machinery	April 16, 1861.
	Gove *et al.* (*See* Johnson & Bartlett, assignors.)			
18	Graham, Edmund H	Manchester, N. H	Magazine guns	Jan. 8, 1861.
1763	Graham, J. W., and J. M. Topliff	Pittsfield, Ill	Water elevators	July 9, 1861.
795	Graham, Ralph	Brooklyn, N. Y	Faucets	Mar. 26, 1861.
1265	Graichen, W., and C. Hoffman	Clinton, Mass	Looms	May 7, 1861.
	Granger, R. D., and A. Ransom. (*See* Ransom & Granger.)			
2341	Granger, R. D.	Albany, N. Y	Stoves	Sept. 24, 1861.
2775	Granger, Samuel C	Chicago, Ill	Preparing mash for brewing	Nov. 26, 1861.
590	Grant, George W. T	Winona county, Minn	Picket fences	Mar. 5, 1861.
	Gratz, Code & Hopper. (*See* Roberts, Edward, assignor.)			
233	Gratz, H. Howard	Spring Station, Ky	Machines for indicating railroad stations or streets of cities	Jan. 29, 1861.
2032	Gray, A. N	Cleveland, Ohio	Railroad rail coupling	Aug. 13, 1861.
450	Gray, Josiah C	Frankfort, Ind	Bee hives	Feb. 19, 1861.
797	Gray, Joseph	Raymond, Miss	Envelopes	Mar. 26, 1861.
796	Gray, H., and W. A. Bury	Grosse Isle, Mich	Farm gates	Mar. 26, 1861.
965	Gray, William H	Dover, N. H	Let-off for looms	April 9, 1861.
2698	Gray, W. H	Philadelphia, Pa	Epaulets	Nov. 12, 1861.
	Green, Hartel P., and Jacob Esteg. (*See* Burditt, Riley, assignor.)			
	Green, John W., *et al.* (*See* Tupper, A. K., assignor.)			
570	Greene, John F., assignor to Samuel B. Tobey	Brooklyn, N. Y	Machines for sifting flock	Feb. 26, 1861.
708	Green, Loure	Great Bend, Pa	Ploughs	Mar. 19, 1861.
1862	Green, Loure	Great Bend, Pa	Ploughs for draining and subsoiling	July 23, 1861.
1127	Greenawalt, Charles	Seiberlingville, Pa	Water wheel	April 23, 1861.
49	Greene, John F., assignor to Samuel B. Tobey	Brooklyn, N. Y	Machines for making hat-bodies	Jan. 1, 1861.

101	Greene, William A.	Albany, N. Y.	Laundry stove.....(Design)	Aug. 13, 1861.
2479	Greenebaum, Michael	Chicago, Ill.	Heating apparatus	Oct. 15, 1861.
379	Greenleaf, G S., and Cyrus Buckland.	Springfield, Mass	Carpet stretcher	Feb. 12, 1861.
1827	Greenleaf, M. T	Quincy, Ill.	Pumps	July 16, 1861.
60	Greenwood, Miles	Cincinnati, Ohio	Pump.....(Design)	May 28, 1861.
1555	Gregg, Charles	New York, N. Y.	Automatic regulator for steam-heating apparatus	June 18, 1861.
	Greig, David, *et al.* (*See* Fowler, John, jr., *et al.*)			
798	Gridley, J. A.	Southampton, Mass.	Acromatic balance	Mar. 26, 1861.
1471	Griffin, George B.	Madison, Wis.	Clothes wringer	June 4, 1861.
75	Griffin, Isaac	Milford, Ga.	Cotton presses	Jan. 8, 1861.
161	Griffin, John	Louisville, Ky.	Cotton pickers	Jan. 22, 1861.
451	Griffin, John	Louisville, Ky	Changing the speed of steam carriages	Feb. 19, 1861.
591	Griffin, John	Louisville, Ky	Cotton pickers	Mar. 5, 1861.
592	Griffin, John	Louisville, Ky	Mode of regulating the speed of vehicles moved by mechanical power.	Mar. 5, 1861.
1511	Griffin, John	Louisville, Ky	Engines, &c., for overcoming dead points in cranks	June 11, 1861.
2985	Griffin, Rhesa	Syracuse, N. Y	Machines for punching boiler plates	Dec. 24, 1861.
1938	Griffin, Thomas	Roxbury, Mass	Flower pots	July 30, 1861.
	Griffith, J. K., and A. Houpt. (*See* Houpt & Griffith.)			
1282	Grimes, William C.	Philadelphia, Pa	City railroads	May 14, 1861.
2578	Grimshaw, Christopher	Milwaukie, Wis	Breech-loading ordnance	Oct. 29, 1861.
1217	Griscom, William M.	Philadelphia, Pa	Shutter fastener	April 30, 1861.
1863	Griswold, G. G.	Chester, Conn	Skates	July 23, 1861.
2618	Griswold, George W., assignor to A. C. Sisson	Abington, Pa.	Spring bottom for beds, chairs, &c	Oct. 29, 1861.
1628	Griswold, M. R., and O. B. Bailey	Watertown, Conn	Swifts	July 16, 1861.
	Griswold, P., and H. H. Seely. (*See* Seely & Griswold.)			
2832	Gross, Henry	Tiffin, Ohio	Revolving fire-arm	Dec. 3, 1861.
2243	Grossjean, Florian	New York, N. Y	Process of making iron spoons	Sept. 10, 1861.
1472	Grout, M., and C. Lawton	Oak Grove, Wis	Seeding machines	June 4, 1861.
	Grover & Baker Sewing Machine Co. (*See* Hook, Albert H.)			
	Grover & Baker Sewing Machine Co. (*See* Bollman, Louis.)			
	Grover & Baker Sewing Machine Co. (*See* Bollman, Louis.)			
2936	Grover, William O.	Boston, Mass	Sewing machines	Dec. 24, 1861.
139	Grover, W. O., and Wm. E. Baker, assignors to Grover & Baker Sewing Machine Company.	Boston, Mass	Sewing machines.....(Reissue)	Dec. 3, 1861.
2774	Grover, William O.	Boston, Mass.	Sewing machines	Nov. 26, 1861.
1283	Grumel, F. R	Geneva, Switzerland	Photographic album	May 14, 1861.
1556	Gum, Joseph and St. Clair	Marseilles, Ill.	Cultivators	June 18, 1861.
1099	Gummer, Albert, assignor to self and Gustavus Zscheck	Indianapolis, Ind	Lath machines	April 16, 1861.
2480	Gunn, D. M., and C. L. Cain	Oskaloosa, Iowa	Bee hives	Oct. 15, 1861.
1128	Gunn, John	Worcester, Mass	Steam trap	April 23, 1861.
2183	Gurley, G. B., and O. G. Brady.	New York, N. Y	Cot, lounge, and chair	Sept. 3, 1861.
	Gurney, Benjamin, *et al.* (*See* De Brame, J. A., assignor.)			
	Gurney, Benjamin, *et al.* (*See* De Brame, J. A., assignor.)			
	Gurney, Jeremiah. (*See* De Brame, J. A., assignor.)			
	Gurney, Jeremiah. (*See* De Brame, J. A., assignor.)			
2244	Guy, W. H	Jonesville, Mich	Cheese press	Sept. 10, 1861.
1243	Guyer, Earl	Wolcott, Vt.	Vegetable cutters	May 7, 1861.
2136	Gwynn, John J	Plainfield, N. J	Lamps	Aug. 27, 1861.
1218	Gwynne, W. H	New York, N. Y	Apparatus for naphthalizing gas	April 30, 1861.
2245	Gwynne, W. H	New York, N. Y	Apparatus for the manufacture of water gas	Sept. 10, 1861.
2860	Gwynne, W. H., assignor to self, C. A. Bumer, and H. G. Norton.	New York, N. Y	Machinery for rifling guns	Dec. 10, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
509	Haasz, D. T., assignor to self and Thomas Nash	Philadelphia, Pa	Apparatus for ascertaining fares taken on public conveyances	Feb. 19, 1861.
1059	Haag, Joel, and J. C. Smith	Bernville, Pa	Water wheels	April 16, 1861.
	Hacker, W. A. (*See* Stoddard, J. C., assignor.)			
11	Hackett, Nicholas	Albany, N. Y.	Chimney top	Jan. 1, 1861.
	Hackett, U. S., *et al.* (*See* Glenn, Ball & Hackett.)			
1864	Hagans, H	Brandonville, Va	Churn	July 23, 1861.
	Hageman, A., *et al.* (*See* Weitman, Christian, assignor.)			
967	Haight, James O	Albany, N. Y	Pistons of steam-engines	April 9, 1861.
	Hailes, Wm., and J. G. Treadwell. (*See* Treadwell & Hailes.)			
22	Hainemann, Sampson, assignor to self and Julius Negbaur	New York, N. Y	Trade-mark design (Design)	Feb. 26, 1861.
1512	Haines, David	Union Bridge, Md	Hominy machines	June 11, 1861.
	Hale, Atterbury & Co. (*See* Reighard, Jacob, assignor.)			
1829	Hale, Charles E	Millbury, Mass	Skates	July 16, 1861.
709	Hale, Elias J	Foxcroft, Me	Lanterns	Mar. 19, 1861.
710	Hale, James, and J. S. Atterbury	Pittsburg, Pa	Lanterns	Mar. 19, 1861.
2189	Hale, Robert	Roxbury, Mass	Pipe coupling	Sept. 3, 1861.
105	Hall, Andrew M., assignor to James A. Saxton	West Falmouth, Me	Mowing machines (Reissue)	July 9, 1861.
2077	Hall, E. A	Jacksonville, Ind	Washing machines	Aug. 20, 1861.
2970	Hall, E. J., assignor to self and C. P. Stimets	Highgate, Vt	Spring caster	Dec. 17, 1861.
1259	Hall, Ezra G., assignor to self and Wm. F. Drake	New York, N. Y	Nail machine	May 7, 1861.
1129	Hall, Francis B	Hartford, Conn	Instrument for registering reciprocating and rotary motion	April 23, 1861.
1219	Hall, Francis B	Hartford, Conn	Car coupling	April 30, 1861.
2137	Hall, Gardiner, jr	West Willington, Conn	Thread-dressing machines	Aug. 27, 1861.
	Hall, George, and Reuben Raden. (*See* Hatfield, W. E., ass'r.)			
1357	Hall, Henry A	Boston, Mass	Portable filter	May 21, 1861.
308	Hall, Thomas Q	Fairfield, Iowa	Extension table	Feb. 5, 1861.
1220	Haller, William L	Philadelphia, Pa	Scrubbing brush	April 30, 1861.
2521	Hamel, George	Abington, Pa	Stoves	Oct. 22, 1861.
2697	Hamill, Samuel S	East Cambridge, Mass	Railroad switch	Nov. 12, 1861.
2765	Hamilton, Arnold	Broad Brook, Conn	Breech-loading fire-arms	Nov. 19, 1861.
2639	Hamilton, Daniel S	Elmira, N. Y	Rotary pumps	Nov. 5, 1861.
1764	Hamilton, Edward	Chicago, Ill	Breech-loading ordnance	July 19, 1861.
2138	Hamilton, S. H	Macomb, Ill	Corn harvesters	Aug. 27, 1861.
711	Hamilton, William	St Catharine, Mo	Churn	Mar. 19, 1861.
309	Hammer, J. A., and J. P. Gordon	Lisbon, Iowa	Mole ploughs	Feb. 5, 1861.
2139	Hammond, A. H	Worcester, Mass	Metallic reeds for musical instruments	Aug. 27, 1861.
	Hand, Edwin, *et al.* (*See* De Bolle, John M., assignor.)			
535	Hanes, Peter	Edina, Mo	Shoemaker's clamp	Feb. 26, 1861.
	Hanghian, P., and W. Jones. (*See* Jones & Hanghian.)			
	Hanlon Brothers. (*See* Morrison, E. R., assignor.)			
1865	Hanlon, William	Philadelphia, Pa	Cricket wickets	July 23, 1861.
2579	Hanlon, William & George	New York, N. Y	Portable gymnasium	Oct. 29, 1861.
2580	Hannas, P. M	Easton, Pa	Water wheel	Oct. 29, 1861.
310	Hansbrow, Thomas	Sacramento, Cal	Pumps	Feb. 5, 1861.
1358	Harasythy, Charles	San Francisco, Cal	Portable water gas apparatus	May 21, 1861.

	Harbison, J. S., and J. L. McPherson. (*See* McPherson & Harbison.)			
121	Harbison, J. S.	Sacramento, Cal	Bee hives (Reissue)	Sept. 3, 1861.
2581	Harbottle, Thomas, and M. Field Fowler	New York, N. Y	Apparatus for directing water to, and maintaining continuous pressure upon, hydraulic rams.	Oct. 29, 1861.
95	Hardeman, Jno. Locke, deceased, by *mesne* assignments to William N. Whiteley.	Arrow Rock, Ill. Springfield, Ohio	Machines for cutting hemp (Reissue)	June 18, 1861.
96	Hardeman, Jno Locke, deceased, by *mesne* assignments to William N. Whiteley.	Arrow Rock, Ill. Springfield, Ohio	Machines for cutting hemp. (B division of, reissue)	June 18, 1861.
97	Hardeman, Jno Locke, deceased, by *mesne* assignments to William N. Whiteley.	Arrow Rock, Ill. Springfield, Ohio	Machines for cutting hemp. (C division of, reissue)	June 18, 1861.
2190	Harder, Peter	Danville, Pa	Cement for roofing purposes	Sept. 3, 1861.
1620	Hardie, Jason W.	New York, N. Y	Needle setter and threader for sewing machines	June 25, 1861.
2640	Hardie, J. W	New York, N. Y	Army trunks	Nov. 5, 1861.
2699	Hardie, J. W.	New York, N. Y	Construction of knife and fork	Nov. 12, 1861.
311	Hardy, Charles	Biddeford, Me	Machinery for grinding the card-teeth of carding cylinders	Feb 5, 1861.
968	Hardy, Charles	Biddeford, Me	Lubricators for spinning machinery	April 9, 1861.
593	Hardy, D. D., and J. J. Morris	Cincinnati, Ohio	Rotary pumps	Mar. 5, 1861.
2078	Hardy, Peter J	New York, N. Y	Camp chair	Aug. 20, 1861.
234	Hardy, W. M., and Charles E.	East Strong, Maine	Apple parer	Jan. 29, 1861.
1229	Hargraves, T. C., assignor to H. M. Crane	Schenectady, N. Y	Harvesting machines	April 30, 1861.
2833	Hargraves, T. C.	Schenectady, N. Y	Broom vise	Dec. 3, 1861.
2937	Hargraves, T. C.	Schenectady, N. Y	Cutting apparatus of harvesters	Dec. 17, 1861.
1223	Harlan, George	Brownsville, Ind	Seeding machines	April 30, 1861.
639	Harold, Thomas George, assignor to self and Gibbons L. Kelty.	Brooklyn, N. Y	Curtain fixture	March 5, 1861.
2140	Harper, Henry W.	Berlinsville, Pa	Slate frames	Aug. 27, 1861.
	Harper, James, and John H. Brown. (*See* Krauser, John L., assignor.)			
2141	Harrah. W. D., B. S. Baldwin, and H. P. Jones	Davenport, Iowa	Seed drills	Aug. 27, 1861.
1130	Harrington, John R.	New York, N. Y	Carpet linings	April 23, 1861.
	Harris, J., and R. R. Crosby. (*See* Crosby & Harris.)			
235	Harris, Joel	New Carlisle, Ind	Water wheels	Jan. 29, 1861.
2079	Harris, John K.	Allensville, Ind.	Press for pressing hay, cotton, &c	Aug. 20, 1861.
12	Harris, Joseph, jr.	Roxbury, Mass	Adding machines	Jan. 1, 1861.
536	Harris, L. P.	Mansfield, Ohio	Binding attachment to harvesters	Feb. 26, 1861.
	Harrison, B. M., and E Huddleston. (*See* Huddleston & Harrison.)			
2735	Harrison, M. La Rue	Burlington, Iowa	Mode of applying the bolsters in railroad car trucks	Nov. 19, 1861.
	Harrison, Thomas. (*See* Chatfield & Dutcher, assignors.)			
	Harroun, Sanford & Co. (*See* Hill, George J., assignor.)			
426	Harsen, Wm., assignor to self and Francis N. Bangs	New York, N. Y	Rock drill	Feb. 12, 1861.
2142	Harsha, M. S.	Sycamore, Ill.	Washing machine	Aug. 27, 1861.
799	Hart, Henry F.	Brooklyn, N. Y.	Apparatus for indicating the position of water in steam boilers.	Mar. 26, 1861.
659	Hart, Walter	Philadelphia, Pa	Egg beater	Mar. 12, 1861.
	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
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	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
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	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
	Hartford Carpet Co. (*See* Thompson, Henry G., assignor.)			
	Hart, B. (*See* Shaw, Thomas, assignor.)			
	Hart, William		Clock escapements	
2938	Harter, J. V		*Evaporating pan for saccharine juices*	
380	Hartley, N. D., and M. S. Morehouse	Quincy, Ill	Bee hives	Feb. 12, 1861.
1765	Hartman, George R	*Fort Wayne, Ind*	Bee hives	July 9, 1861.
314	Hartman, John, jr	New York, N. Y	Couch seats for railroad cars..(Additional improvement)	Feb. 26, 1861.
	Hartshorn, William E. (*See* Luther, John M., assignor.)			
1686	Hartupee, Andrew	Pittsburg, Pa	Valve gear of steam-engines	July 2, 1861.
1221	Hartwig, Henry	New York, N. Y	Locks	April 30, 1861.
1222	Hartwig, Henry	New York, N. Y	Locks	April 30, 1861.
	Harvey, E. A., and D. McDaniel. (*See* McDaniel & Harvey.)			
712	Harvey, Samuel Thomas	Baltimore, Md	Stoves	Mar. 19, 1861.
381	Harwood, Irving J	Boston, Mass	Piano-forte action	Feb. 12, 1861.
	Haskell, Andrew L. (*See* Davis, L. M., assignor.)			
2342	Haskell, A. L., assignor to self and E. H. Ashcroft	Boston, Mass	Tents	Sept. 24, 1861.
	Haskins, J. P., and J. W. Barker. (*See* Barker & Haskins.)			
2080	Hassenpflug, Henry	Huntingdon, Pa	Lamps	Aug. 20, 1861.
	Hastings, E. and E. B. (*See* Knight, Luke L.)			
594	Hastings, John, and L. P. Gantier	San Francisco, Cal	Process of treating gold and silver ores	Mar. 5, 1861.
2384	Hatch, George W	Princeton, Ill	Tanning	Oct. 1, 1861.
	Hatch, T. C., *et al.* (*See* Sawyer, Howland, jr., & Hatch.)			
2863	Hatfield, W. E., assignor to Reuben Raden and Geo. Hall	Newark, N. J	Machines for sizing hat-bodies	Dec. 3, 1861.
13	Hathaway, Alfred	Charlestown, Mass	Skates	Jan. 1, 1861.
2385	Hathaway, Alfred	Charlestown, Mass	Paper-ruling machines	Oct. 1, 1861.
537	Hathaway, B. R	Mormon Island, Cal	Lifter for stove covers	Feb. 26, 1861.
2987	Hathaway, George C	Plymouth, Mass	Portfolio and writing tablet	Dec. 24, 1861.
14	Hathaway, H., and B. Lathrop	Detroit, Mich. / Tolland, Conn	Apparatus for evaporating liquids	Jan. 1, 1861.
	Hathaway, John M. (*See* Wuterich, Ferdinand, assignor.)			
	Hathaway, Samuel, *et al.* (*See* Earle, John E., assignor.)			
	Hathaway, Samuel, *et al.* (*See* Earle, John E., assignor.)			
236	Havemann, R. F. H	New Brunswick, N. J	Composition of caoutchouc	Jan. 29, 1861.
237	Havemann, R. F. H	New Brunswick, N. J	Composition of caoutchouc	Jan. 29, 1861.
2343	Haven, Rufus	Perrysville, Ind	Moth traps for bee hives	Sept. 24, 1861.
1473	Havens, Jonathan H	Troy, Ohio	Frames of buggy tops	June 4, 1861.
2191	Haviland, David A	Fort Dodge, Iowa	Boot legs	Sept. 3, 1861.
2641	Haviland, D. A., and A. S. Phillips	Fort Dodge, Iowa	Apparatus for handling hides in tanning	Nov. 5, 1861.
2143	Hawkins, Horace R	Akron, Ohio	Straw cutters	Aug. 27, 1861.
2060	Hawkins, L. D., assignor to Alfred Peabody	San Francisco, Cal	Machines for scouring, cleaning, and smutting rice, coffee, and other grain.	Aug. 13, 1861.

2344	Hawley, H. Q.	Albany, N. Y.	Metres for water gas, &c.	Sept. 24, 1861.
2777	Hawley, R. K., and W. W. Maughlin	Baltimore, Md.	Portable wooden tents	Nov. 26, 1861.
56	Hawley, Samuel R.	New York, N. Y.	Hat (Design.)	May 28, 1861.
1909	Haworth, B., assignor to himself and B. F. Canaday	Ridge Farm, Ill.	Joiners' bench vise	July 23, 1861.
2192	Haworth, G. D	Decatur, Ill.	Corn planters	Sept. 3, 1861.
2172	Haworth, Wade H.	Towanda, Ill.	Cultivators	Aug. 27, 1861.
713	Hay, Alexander	Philadelphia, Pa.	Railroads	Mar. 19, 1861.
69	Hayden, H. W.	Waterbury, Conn.	Mat for daguerreotype cases (Design.)	June 25, 1861.
660	Hayden, Levi W.	Wilkesbarre, Pa.	Machine for crimping boots	Mar. 12, 1861.
800	Hayes, Dennis	New York, N. Y.	Pumps	Mar. 26, 1861.
595	Hayes, George E.	Buffalo, N. Y.	Apparatus for vulcanizing caoutchouc	Mar. 5, 1861.
2522	Hayes, Jabez W.	Newark, N. J.	Apparatus for printing bank notes	Oct. 22, 1861.
50	Haynes, James, assignor to self and Tristam T. Lewis	Hollis, Maine	Device for straining wood saws	Jan. 1, 1861.
882	Haynes, John	Pembroke, Maine	Machinery for operating fog-bells	April 2, 1861.
	Hayward, D. E., *et al.* (See Pearson & Peabody, assignors.)			
2276	Hazard, Rusel, assignor to self and Alexander Porter	New London, Ohio	Hames	Sept. 10, 1861.
2700	Hazen, William J.	Bethany, Pa.	Moth trap for bee hives	Nov. 12, 1861.
	Head, Jeremiah, *et al.* (See Fowler, John, jr., *et al.*)			
1989	Heald, J. A.	Springfield, Mass.	Machines for making cigars	Aug. 6, 1861.
452	Hearne, Elisha A.	Lowndes county, Ala.	Cotton cleaner	Feb. 19, 1861.
2619	Heartt, Jonas S., and Samuel English, assignors to Jonas S. Heartt, James Ostrander, and Joseph Ridgway.	Troy, N. Y.	Machines for making fire clay gas retorts	Oct. 29, 1861.
661	Heaton, C. W. S	Salem, Ill.	Cultivators	Mar. 12, 1861.
	Heaton, David, 2d, *et al.* (See Williams, Turner, assignor.)			
	Heaton, David, 2d. (See Williams, Turner, assignor.)			
2429	Heaton, E., and J. L. Joyce	New Haven, Conn.	Boots and shoes	Oct. 8, 1861.
	Heath, William. (See Campbell, Edwin, assignor.)			
453	Hebard, Benjamin F.	Neponset, Mass.	Burning fluid compositions	Feb. 19, 1861.
1359	Heckler, Charles Y.	Philadelphia, Pa.	Copying presses	May 21, 1861.
1360	Hedenberg, F. L.	New York, N. Y.	Fireplace heater	May 21, 1861.
	Heermance, Garet G., and Joseph C. Tiffany. (See Tiffany & Heermance.)			
	Heffron, D. S. (See Worden & Leach, assignors.)			
115	Hegarty, Thomas	St. Louis, Mo.	Manufacture of baskets	Jan. 15, 1861.
883	Heidrich, Frederick		Lamps	April 2, 1861.
1244	Heidrich, Frederick	Philadelphia, Pa	Lamps	May 7, 1861.
2988	Heine, O. T. L., and E. Prussing	Chicago, Ill.	Journal boxes	Dec. 24, 1861.
662	Helms, Charles H	Poughkeepsie, N. Y.	Machine for trimming heels of boots and shoes	Mar. 12, 1861.
2386	Hemenway, Arthur	Townsend, Ohio	Mop	Oct. 1, 1861.
	Heming, G. H., and James S. Yerk. (See Yerk & Heming)			
	Hemstreth, Z. H., *et al.* (See Burtoo, Jesse, assignor.)			
382	Henderson, Daniel W.	Deerfield, Pa.	Stump machine	Feb. 12, 1861.
1687	Henderson, Joseph C.	Albany, N. Y.	Stoves	July 2, 1861.
15	Henderson, John G.	Palmyra, Mo.	Hand looms	Jan. 1, 1861.
1416	Henderson, William H	Franklin, Ind	Bending rain gutters	May 28, 1861.
2345	Hendrickson, James R.	McKeesport, Pa.	Fireplace	Sept. 24, 1861.
163	Heneage, Robert	Buffalo, N. Y.	Hemp brakes	Jan. 22, 1861.
2413	Hennessey, Edward, assignor to Cyrus Brett	Waterville, Maine	Spring bed bottom	Oct. 1, 1861.
2778	Henry, R. P., and G. W. Fox	Akron, Ohio	Tombstones	Nov. 26, 1861.
2642	Henson, William S	Newark, N. J.	Breech-loading ordnance	Nov. 5, 1861.
2582	Herbert, Samuel	New York, N. Y.	Canteen	Oct. 29, 1861.
510	Herdtfelder, George, assignor to self and C. Lammrich	New York, N. Y.	Underground receptacle for waste water	Feb. 19, 1861.
116	Herlong, Daniel	Sandy Ridge, Ala	Cotton seed planters	Jan. 15, 1862.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Herrick, R. R., *et al.* (*See* Longacre, M. C., assignor.)			
164	Herring, C. L.	St. Louis, Mo	Gas regulators	Jan. 22, 1861.
969	Herrington, E. F. & J.	West Hoosick, N. Y.	Mowing machines	April 9, 1861.
383	Herron, Abial C.	West Farms, N. Y.	Car brakes	Feb. 12, 1861.
1557	Hersey, S. S.	Farmington, Maine	Apple parer	June 18, 1861.
46	Hewitt, Henry, assignor to W. A. Sanford	San Francisco, Cal	Seeding harrows (Reissue)	Mar. 19, 1861.
2430	Heyle, John Adam, assignor to self and John O'Brien	Boston, Mass	Self-acting switches for horse railroads	Oct. 8, 1861.
2193	Hickman, J. A. C. & A. S.	Summerfield, Ill.	Corn planters	Sept. 3, 1861.
56	Hickok, W. O.	Harrisburg, Pa.	Mills for grinding apples (Reissue)	Mar. 26, 1861.
1284	Hicks, James M.	Boston, Mass.	Erasers	May 14, 1861.
801	Hicks, William Cleveland	Boston, Mass	Sewing machines	Mar. 26, 1861.
1050	Hicks, William Cleveland	Boston, Mass	Sewing machines	April 16, 1861.
1361	Hicks, William C.	Boston, Mass	Blind fastening	May 21, 1861.
	Hicks, S. R., and S. L. Shotwell. (*See* Shotwell & Hicks.)			
2701	Higgins, George A.	New York, N. Y.	Camp stoves	Nov. 12, 1861.
76	Higgins, James	Manchester, Eng.	Stopping and starting cars	Jan. 8, 1861.
853	Higgins, J., and T. S. Whitworth	Salford, Eng	Spinning machines. (Patented in England, Oct. 13, 1860)	Mar. 26, 1861.
1939	Higgins, James	Chicago, Ill.	Mosquito bar frame	July 30, 1861.
2834	Higley, Aaron	Sand Creek, Minn.	Grain separators	Dec. 3, 1861.
2643	Hildreth, B. G.	Philadelphia, Pa.	Sash supporter	Nov. 5, 1861.
1362	Hildreth, George W.	Lockport, N. Y.	Cultivators	May 21, 1861.
1547	Hill, Albert M., assignor to W. S. Kirkham	Branford, Conn.	Locks and knob latches	June 11, 1861.
1417	Hill, Albert V.	Carrollton, N. Y.	Fire-arms	May 28, 1861.
2835	Hill, Benjamin B.	Chicopee, Mass.	Shaft coupling	Dec. 3, 1861.
2864	Hill, B. B., assignor to self and H. R. Gardner	Chicopee, Mass.	Marking brand	Dec. 3, 1861.
346	Hill, George G., assignor to Sanford, Harroun & Co.	Buffalo, N. Y.	Machine for numbering railroad tickets	Feb. 5, 1861.
59	Hill, James M.	Angel's Camp, Cal	Amalgamators	Jan. 1, 1861.
1558	Hill, Ralph	New York, N. Y.	Daguerreotype cases	June 18, 1861.
	Hill, S. L. (*See* Foster, D. P., assignor.)			
1990	Hill, Warren	East Smithfield, Pa.	Washboard	Aug. 6, 1861.
	Hills, W. S. & J. H., *et al.* (*See* Farrell, Joseph O., assignor.)			
2033	Hillard, James P.	Fall River, Mass	Stop motion in spinning machinery	Aug. 13, 1861.
1184	Hiller, Prince	Mattapoisett, Mass.	Locks of fire-arms	April 30, 1861.
2061	Hilton, Samuel F., assignor to self and W. D. Hilton	Providence, R. I.	Cement for leather and other substances	Aug. 13, 1861.
2013	Hingher, Constantin, assignor to Novelty Rubber Company	New Brunswick, N. J.	Stems for smoking-pipes	Aug. 6, 1861.
1688	Hinkle, David	New Pittsburg, Ohio	Clover harvesters	July 2, 1861.
	Hinman, Botsford B., and Wm. E. Gaunt. (*See* Gaunt & Botsford.)			
2836	Hinman, John W.	Omro, Wis.	Buckles	Dec. 3, 1861.
1285	Hirschbühl, J. J.	Louisville, Ky.	Locks	May 14, 1861.
1418	Hirschbühl, J. J.	Louisville, Ky.	Vent-stoppers for ordnance	May 28, 1861.
1559	Hirschbühl, J. J.	Louisville, Ky.	Padlock	June 18, 1861.
238	Hitchcock, Robert	Watertown, N. Y.	Winding clocks	Jan. 29, 1861.
2246	Hitchcock, Robert	Watertown, N. Y.	Self-winding clocks	Sept. 16, 1861.
2034	Hitchcock, R. E.	Waterbury, Conn.	Picture buttons	Aug. 13, 1861.

239	Hitchcock, Silvester S	Chicago, Ill	Scales	Jan. 29, 1861.
1185	Hitchings, D	Richfield, N. Y	Reapers and mowers	April 30, 1861.
77	Hix, Wiley B	Rome, Ga	Arrangement of flues for drying tobacco	Jan. 8, 1861.
1940	Hoadley, Joseph M	Derby, Conn	Skates	July 30, 1861.
1844	Hoagland, J. W., assignor to self and Richard McMullen	New Brunswick, N. J	Pneumatic springs	July 16, 1861.
35	Hoard, Charles B	Watertown, N. Y	Method of winding time-keepers by currents of air	Feb. 19, 1861, (reissue.)
	Hoard, John W., and George B. Wiggin. (*See* Wiggin & Hoard.)			
511	Hobbs, Isaac H., assignor to self and Wm. H. Clarke	Philadelphia, Pa	Ruling guides for fountain pens	Feb. 19, 1861.
1941	Hodge, Jerome N	North White Creek, N. Y	Machine for sawing and cutting wood	July 30, 1861.
2989	Hodge, Samuel F	Detroit, Mich	Stamp head for quartz crusher	Dec. 24, 1861.
2081	Hodgkins, C	Marlboro', N. H	Sewing machines	Aug. 20, 1861.
	Hodgson, Wm., and Nathan Cope. (*See* Cope & Hodgson.)			
	Hoe, Richard M	New York, N. Y	Rotary printing presses (Extension)	July 24, 1861.
1286	Hoff, Cornelius C	New York, N. Y	Composition for roofing	May 14, 1861.
2736	Hoffman, A., and H. W. Limebeck	Half Day, Ill	Cultivators	Nov. 19, 1861.
970	Hoffman, C., and W. Graichen	Clinton, Mass	Temples	April 9, 1861.
	Hoffman, Charles, and Wm. Graichen			
538	Hoffman, Henry	New York, N. Y	Steam boilers	Feb. 26, 1861
1621	Hoffman, Ludwig August	Berlin, Prussia	Galvanic metal friction brush	June 25, 1861.
1766	Holbrook, Albert	Providence, R. I	Pickers	July 9, 1861.
1767	Holbrook, Albert	Providence, R. I	Pickers	July 9, 1861.
1474	Holcomb, Alfred G	New York, N. Y	Electro magnet	June 4, 1861.
925	Holden, L. & S. B., assignors to themselves and J. C. Seelye	Woburn, Mass	Manufacture of boots and shoes	April 2, 1861.
312	Holland, Goodrich	Willimantic, Conn	Machines for sorting silk and other thread	Feb. 5, 1861.
454	Holland, Goodrich	Willimantic, Conn	Machines for sorting silk and other thread	Feb. 19, 1861.
3032	Holland, G. F	Leominster, Mass	Mode of attaching breeching to shafts of carriages	Dec. 21, 1861.
16	Hollen, Joseph	Fostoria, Pa	Knitting machines	Jan. 1, 1861.
165	Holmes, Edward & Britain	Buffalo, N. Y	Stave machines	Jan. 22, 1861.
455	Holmes, Edward & Britain	Buffalo, N. Y	Stave machine	Feb. 19, 1861.
685	Holmes, Ezra Sprague, assignor to O. E. Holmes and Wm. Perrigo.	Wilson, N. Y	Machine for pressing fruit in barrels, &c	Mar. 12, 1861.
1287	Holmes, Henry S	Lynn, Mass	Congress gaiters	May 14, 1861.
2808	Holmes, Reuben G., assignor to self and Jonathan Luther	Worcester, Mass	Clothes washer and wringer	Nov. 26, 1861.
	Holmes, Thomas. (*See* Braidwood & Whiting, assignors.)			
	Holmes, T., and M. Merrill. (*See* Rowe, John L., assignor.)			
2881	Holmes, Thomas	Williamsburg, N. Y	Embalming	Dec. 10, 1861.
117	Holmes, Willis	Macomb, Ill	Windmills	Jan. 15, 1861.
1260	Holt, James G., assignor to Oscar G. Langi and Charles B. Brown.	Chicago, Ill	Casting thimble boxes	May 7, 1861.
2779	Holt, James Gilbert	Chicago, Ill	Casting seamless screw nuts	Nov. 26, 1861.
141	Holt, John	Gardner, Me	Rolling pin (Design)	Dec. 10, 1861.
1288	Homes, Nelson	Laona, N. Y	Broom clasp	May 14, 1861.
971	Hood, Benjamin W	Pawtucket, Mass	Thimbles	April 9, 1861.
347	Hook, Albert H., assignor to the Grover & Baker Sewing Machine Company.	New York, N. Y	Sewing machines	Feb. 5, 1861.
1560	Hooker, T. C	Kendall, N. Y	Harrows	June 18, 1861.
1024	Hooper, Benjamin F., assignor to Eli N. Baldwin	Birmingham, Conn	Machine for making braces for carriage tops	April 9, 1861.
	Hooper, Samuel Thompson. (*See* Osborne, J. W., assignor.)			
	Hooper, Samuel T. (*See* Osborne, J. W., assignor.)			
	Hooper, Wm. J., and R. Gournall. (*See* Gournall, Richard, assignor.)			
596	Hooton, James S	New Carlisle, Ind	Condenser and water heater for steam engines	Mar. 5, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1991	Hoover, James	Lewisburg, Ohio	Automatic boiler feeder	Aug. 6, 1861.
758	Hope, William H., assignor to Thomas B. Florence	Washington, D. C.	Machine for sweeping streets	Mar. 19, 1861.
1230	Hope, William H., assignor to Thomas B. Florence	Washington, D. C.	Street-sweeping machine	April 30, 1861.
2939	Hopkins, Harvey L	Lebanon, N. Y.	Harvesters	Dec. 17, 1861.
2940	Hopkins, Obadiah	New York, N. Y.	Mounting and manœuvring cannon	Dec. 17, 1861.
802	Hopkins, William Bentley	Oakfield, N. Y.	Churn	Mar. 26, 1861.
	Hopper, Code & Gratz. (*See* Roberts, Edward, assignor.)			
972	Horalek, Edward	New York, N. Y.	Boilers for hot-water apparatus	April 9, 1861.
2035	Horde, Kellis	Philadelphia, Pa.	Hydraulic engine	Aug. 13, 1861.
1363	Hornbrook, Thipena P.	Wheeling, Va.	Bee hives	May 21, 1861.
	Horner, Joseph, and D. M. Edwards. (*See* Edwards & Horner.)			
1364	Horstmann, George H	Philadelphia, Pa.	Dust pan	May 21, 1861.
2036	Horton, Chase B.	Elmira, N. Y.	Buckwheat hullers	Aug. 13, 1861.
	Horton, Depew & Son. (*See* Depew, Geo. W., assignor.)			
26	Horton, James, and John Martino, assignors to D. Stuart and R. Peterson	Philadelphia, Pa.	Stoves (Design)	Mar. 19, 1861.
77	Horton, James, and John Martino, assignors to Stuart & Peterson.	Philadelphia, Pa.	Plates of a cooking stove (Design)	July 16, 1861.
76	Horton, James, and John Martino, assignors to Stuart & Peterson.	Philadelphia, Pa.	Plates of a parlor stove (Design)	July 16, 1861.
1365	Hoskings, Thomas H.	Detroit, Mich.	Machine for the application of man power	May 21, 1861.
1186	Hostler, Benjamin	Brookfield, N. Y.	Mill picks	April 30, 1861.
102	Hotchkiss, A., deceased, by A. A. Hotchkiss, administrator.	Sharon, Conn.	Projectiles for rifled ordnance (Reissue)	July 2, 1861.
144	Hotchkiss, Andrew, deceased, by A. A. Hotchkiss, admin'r.	Sharon Conn.	Projectile for rifled ordnance (Reissue)	Dec. 24, 1861.
60	Hotchkiss, B. B	Sharon, Conn.	Riveting currycombs	Jan. 1, 1861.
1289	Hotchkiss, B. B	Sharon, Conn.	Projectile for rifled ordnance	May 14, 1861.
	Hotchkiss, G. C & T. H. (*See* Webster, Joel, assignor.)			
119	Hotchkiss, Henry K.	Bristol, Conn.	Clock case (Design)	Oct. 29, 1861.
17	Hotchkiss, W. J	Derby, Conn.	Link shackle of chain cables	Jan. 1, 1861.
78	Hotine, William	Brooklyn, N. Y.	Machine for mixing dough	Jan. 8, 1861.
	Hough, J. J., & Co. (*See* Pratt, H. S., assignor.)			
1992	Houpt, A., and J. K. Griffith	Reading, Penn.	Measuring faucet	Aug. 6, 1861.
118	Houston, J. D.	Pope's Depot, Miss.	Cotton scrapers	Jan. 15, 1861.
2387	Houston, William E.	New Haven, Conn.	Compositions for articles of ornamentation	Oct. 1, 1861.
	Hovey, William H. (*See* Stickney, Ancil, assignor.)			
	Howard, *et al.* (*See* Johnson & Bartlett, assignors.)			
1366	Howard, George C.	Philadelphia, Pa.	Machine for punching and perforating	May 21, 1861.
1689	Howard, George C.	Philadelphia, Pa.	Machines for perforating paper	July 2, 1861.
126	Howard, G. C., assignor to A. V., J. D. & F. Blanchard	Palmer, Mass.	Spade, shovel, or dung-fork handles (Reissue)	Oct. 22, 1861.
973	Howard, Jonathan	West Bridgewater, Mass.	Garden hoe	April 9, 1861.
1419	Howard, Sebre	Elyria, Ohio	Running gear of railroad cars	May 28, 1861.
1561	Howard, Samuel S.	Milton, N. Y.	Grinding mills	June 18, 1861.
	Howard, Thomas R., *et al.* (*See* Wright, Lewis R., assignor.)			
49	Howe, Elias, jr.	Brooklyn, N. Y.	Sowing machines (Reissue)	Mar. 19, 1861.

2316	Howe, Franklin L., assignor to self and J. H. Murdock	Woodstock, Vt.	Stump extractors	Sept. 17, 1861.
1290	Howe, H. J.	Onargo, Ill.	Corn planters	May 14, 1861.
	Howe, Jarvis, assignor to B. D. Godfrey	Milford, Mass.	Boot trees (Disclaimer)	Filed June 17, 1861.
2737	Howe, Otis	Cambridgeport, Mass.	Spring bed bottom	Nov. 19, 1861.
1513	Howell, Edward	Ashtabula, Ohio	Sewing machines	June 11, 1861.
598	Howell, Josiah	Sacramento, Cal.	Hemming guides	Mar. 5, 1861.
313	Howell, Martin A., jr.	Ottawa, Ill.	Mole ploughs	Feb. 5, 1861.
	Howell, Martin A., jr. (*See* Elward, John H., assignor.)			
1291	Howland, Shubael W.	Adams, Mass.	Knitting machines	May 14, 1861.
	Howland, W., jr., *et al.* (*See* Sawyer, Howland, J., & Hatch.)			
597	Howlett, J. W.	Greensboro', N. C.	Sewing machines	Mar. 5, 1861.
974	Howlett, J. W.	Greensboro', N. C.	Transmitting motion	April 9, 1861.
384	Hoxsey, Thomas D.	Paterson, N. J.	Tape for spring skirts	Feb. 12, 1861.
2144	Hoyle, Benjamin, and A. Ralston	Martin's Ferry, Ohio.	Threshing machines	Aug. 27, 1861.
2882	Hoyle, Benjamin.	Martin's Ferry, Ohio.	Threshing machines	Dec. 10, 1861.
2247	Hoyt, Ezra P.	New York, N. Y.	Securing carriage wheels to axles	Sept. 10, 1861.
1866	Hoyt, John	Cleveland, Ohio	Machines for drying paper	July 23, 1861.
314	Hubbard, George H.	New York, N. Y.	Enema syringes	Feb. 5, 1861.
2301	Hubbard, Moses G.	Syracuse, N. Y.	Driving power for spinners	Sept. 17, 1861.
456	Hubbell, Myron R.	Wolcott, Vt.	Vegetable cutter	Feb. 19, 1861.
	Hubbell, Peter. (*See* Blake, George F., assignor.)			
2738	Hubbell, William L.	Brooklyn, N. Y.	Means of attaching traces to carriages	Nov. 19, 1861.
759	Huckins, F., and E. C. R. Walker, assignors to Francis Huckins.	Roxbury, Mass.	Apparatus for desiccating and torrefying farinaceous substances.	Mar. 19, 1861.
975	Huddleston, E., and B. M. Harrison	Lawrence, Kansas / Terre Haute, Ind.	Presses.	April 9, 1861.
1187	Hudson, H. H., and G. W. Billings	Cleveland, Ohio.	Water elevators	April 30, 1861.
1494	Hudson, Thomas S., assignor to Thomas Leighton	East Cambridge, Mass.	Barometer inkstands	June 4, 1861.
1690	Hudson, William S.	Paterson, N. J.	Manufacturing tube sheets for boilers	July 2, 1861.
47	Hufnagle, Bernhard	New York, N. Y.	Photographic baths (Reissue.)	Mar. 19, 1861.
315	Hughes, Charles	New Orleans, La.	Hoop locks	Feb. 5, 1861.
2941	Hughes, Daniel	Rochester, N. Y.	Lamps	Dec. 17, 1861.
1215	Hughes, Elisha	McCartysville, Cal.	Making mining picks, &c.	May 7, 1861.
2194	Hughes, James	Scranton, Pa.	Spring balance for safety valves of locomotive and other engines.	Sept. 3, 1861.
599	Hughes, Robert M.	Pleasant Grove, Pa.	Railroad car couplings	Mar. 5, 1861.
2583	Huling, George J., and Albert Taplin	Providence, R. I.	Stove cover lifter and poker	Oct. 29, 1861.
976	Hull, Duane	Newburg, N. Y.	Clothes dryer	April 9, 1861.
	Hull, John S., *et al.* (*See* Rosencranz, E. D., assignor.) Hull & Sims. (*See* Tarpley, C. S., deceased.)			
18	Humbert, Prosper	Boston, Mass.	Lever escapement	Jan. 1, 1861.
539	Humbert, Prosper	Boston, Mass.	Chronometer escapement	Feb. 26, 1861.
	Humes, P. H., and W. C. Rentgen. (*See* Rentgen & Humes.)			
714	Humiston, Luther	New Haven, Conn.	Mode of attaching traces to whiffletrees	Mar. 19, 1861.
27	Humiston, Willis	Troy, N. Y.	Apparatus for moulding candles (Reissue.)	Jan. 22, 1861.
26	Humiston, Willis	Troy, N. Y.	Machinery for moulding candles (Reissue.)	Jan. 22, 1861.
1071	Humphreys, David	Cincinnati, Ohio.	Corn planters	April 16, 1861.
385	Hunsicker, Henry	Lewisburg, Pa.	Machines for separating clover-seed, &c.	Feb. 12, 1861.
2837	Hunt, H. C.	Amboy, Ill.	Car couplings	Dec. 3, 1861.
1867	Hunt, Richard G.	New York, N. Y.	Machines for slotting gas sieves	July 23, 1861.
884	Hunt, R. W., and M. Kennedy	Galesburg, Ill.	Water elevators	April 2, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1398	Hunt, Walter, assignor to John W. and George G. Martin	New York, N. Y.	Lamps	May 21, 1861.
2464	Hunt, William P., and J. D. Spaulding, assignors to William P. Hunt.	Boston, Mass.	Steering apparatus	Oct. 8, 1861.
1830	Hunt, Zebulon	Hudson, N. Y.	Damper for stovepipes	July 16, 1861.
977	Hunter, Andrew	Solano county, Cal	Grain separators	April 9, 1861.
	Huntington, Wait T., and Hervey Platts. (*See* Mix, E. M. & J. E., assignors.)			
	Huntley, Bowman & Co. (*See* Landon, Fred'k, assignor.)			
	Huntley, Bowman & Co. (*See* Landon, Fred'k, assignor.)			
	Huntley, Bowman & Silliman. (*See* Landon, Frederick, assignor.)			
926	Huntley, Hosea H., assignors to Chamberlain & Co., assignors to selves and William Caven.	Cincinnati, Ohio	Cooking stoves	April 2, 1861.
2388	Hunzinger, George	Brooklyn, N. Y.	Reclining chair	Oct. 1, 1861.
	Hurlbut, E., *et al.* (*See* Stever, Jeremiah, assignor.)			
1395	Hurlbut, E. F., assignor to N. S. Bouton	Chicago, Ill.	Patterns for thimble skeins	May 21, 1861.
	Hurlburt, E., *et al.* (*See* Randall, D. F.; assignor.)			
386	Huse, William W	Brooklyn, N. Y.	Cigar machines	Feb. 12, 1861.
	Hussey, Obed, by Eunice B. Hussy, administrator	Baltimore, Md	Reaping machines (Extension.)	Mar. 1, 1861.
	Hussey, Obed, by Eunice B. Hussy, administrator	Baltimore, Md	Reaping machines (Extension.)	Mar. 1, 1861.
	Hussey, Obed, by Eunice B. Hussy, administrator	Baltimore, Md	Reaping machines (Extension.)	Mar. 1, 1861.
	Hussey, Obed, by Eunice B. Hussy, administrator	Baltimore, Md	Reaping machines (Extension.)	Mar. 1, 1861.
	Husted, And'w J., *et al.* (*See* De Bolle, John M., assignor.)			
2780	Huston, R. W	Providence, R. I.	Stove-cover lifters	Nov 26, 1861.
885	Hutchings, S., and J. D. Leach	Penobscot, Me	Washing machine	April 2, 1861.
387	Hutchinson, Hiram	Newark, N. J.	Manufacture of India-rubber goods	Feb. 12, 1861.
70	Hutchison, James, assignor to Jona. E. Whipple	Lansingburg, N. Y.	Oil-cloth pattern (Design.)	June 25, 1861.
1691	Hutchison, John	Mattewan, N. Y.	Boat	July 2, 1861.
1903	Hutchinson, Thomas	Greenpoint, N. Y.	Excavators	Aug. 6, 1861.
2089	Huwald, Gustave A	Knoxville, Tenn	Apparatus for treating cane juices with sulphuric acid	Aug. 20, 1861.
457	Hyatt, J. W. & J. S	Chicago, Ill.	Knife sharpener	Feb. 19, 1861.
1514	Hyde, Ezra F	Brooklyn, N. Y.	City railroads	June 11, 1861.
2702	Hyde, J. B	Newark, N. J.	Manufacture of manure from fish	Nov. 12, 1861.
600	Hyde, J. Little	New York, N. Y.	Sewing machines	March 5, 1861.
886	Ide, Samuel	East Shelby, N. Y.	Bee hives	April 2, 1861.
166	Ingalls, Alfred	Independence, Iowa	Tire heater	Jan. 22, 1861.
803	Ingersoll, T. Dwight	Monroe, Mich	Culinary boiler	Mar. 26, 1861.
27	Ingraham, Elias	Bristol, Conn.	Clock-case front	Mar. 19, 1861.
107	Ingraham, Elias	Bristol, Conn.	Clock-case front (Design.)	Sept. 3, 1861.
139	Ingraham, Elias	Bristol, Conn.	Clock case (Design.)	Dec. 3, 1861.
	Ingraham, H. C., and George S. Tiffany. (*See* Tiffany & Ingraham.)			
	Ingraham & Phillips. (*See* Vedder, N. S., assignor.)			
79	Ingram, James	New York, N. Y.	Water-back for cooking ranges	Jan. 8, 1861.
	Ingram, James, *et al.* (*See* Poole, James, assignor.)			

2195	Inman, Stephen	Rockford, Ill	Gauges for clapboards	Sept. 3, 1861.
	Innis, William J., and Adin Alexander. (*See* Westland, Charles S., assignor.)			
663	Inskeep, Isaiah G	West Middleburg, Ohio	Field fences	Mar. 12, 1861.
167	Irwin, Charles	Buffalo, N. Y	Sewing machines	Jan. 22, 1861.
2523	Irwin, Charles W	St. Louis, Mo	Cot bed	Oct. 22, 1861.
2942	Irwin, C. W	St. Louis, Mo	Camp chest	Dec. 17, 1861.
2584	Irwin, John H	Beardstown, Ill	Lamps	Oct. 29, 1861.
2781	Iske, Anthoni	Lancaster, Pa	Fire-escape ladders	Nov. 26, 1861.
	Iverson, H., and J. London. (*See* London & Iverson.)			
601	Ives, George	Detroit, Mich	Wood-saw horse	Mar. 5, 1861.
1768	Ives, George	Detroit, Mich	Ditching machine	July 9, 1861.
36	Jackson, Peter H	New York, N. Y	Ship winches (Reissue.)	Feb. 19, 1861.
1246	Jackson, William, and J. Clarke	Syracuse, N. Y	Churn	May 7, 1861.
1994	Jacobs, Cornelius	Columbus, Ohio	Pans for evaporating and clarifying saccharine juices	Aug. 6, 1861.
887	Jacobs, T., and N. J. Wilkinson	St. Louis, Mo	Apparatus for purifying water	April 2, 1861.
1062	Jadwin, Rensalier	West Salem, Ohio	Apparatus for supplying steam boilers with water	April 16, 1861.
1420	James, Benjamin	Worcester, Mass	Machine for dying wool, &c	May 28, 1861.
1868	James, Joseph P	Pepin, Minn	Grab, or self-closing hook	July 23, 1861.
602	James, Josiah	Ogdensburg, N. Y	Mechanical movement	Mar. 5, 1861.
1562	Jamison, John P	New York, N. Y	Drawing instrument	June 18, 1861.
240	Jaqua, S	Paterson, N. J	Machine for rolling railway tire	Jan. 29, 1861.
1869	Jarboe, J. W., and A. Mackey	New York, N. Y	Drip pots for sugar moulds	July 23, 1861.
168	Jarrell, William	Trenton, Tenn	Ploughs	Jan. 22, 1861.
	Jarvis, J. W., & Co. (*See* Waterman, C. C. P., assignor.)			
2302	Jassath, G	New York, N. Y	Cartridge box	Sept. 17, 1861.
1692	Jebb, T. A., and Abner Cutler	Buffalo, N. Y	Skate	July 2, 1861.
1693	Jebb, Thomas H	Buffalo, N. Y	Churn	July 2, 1861.
2196	Jeffers, William	Pawtucket, R. I	Hose nozzles	Sept. 3, 1861.
1515	Jencks, George L	Providence, R. I	Hemming guides	June 11, 1861.
	Jenkins, C. C. (*See* Evans, H. W., assignor.)			
	Jenkins, Henry	Brooklyn, N. Y	Process of manufacturing wire grating, &c (Extension.)	Feb. 27, 1861.
686	Jenkins, J., assignor to J. C. Stimpson, W. D. Waters, M. W. Sheperd, and G. W. Keene.	Lynn, Mass	Machine for applying heels to boots and shoes	Mar. 12, 1861.
	Jenkins, N., and Abner Cutler. (*See* Cutler & Jenkins.)			
	Jenks, Barton H. (*See* Shinn, John, assignor.)			
348	Jenks, L. P., assignor to William S. Murray	Boston, Mass	Filters	Feb. 5, 1861.
1622	Jenks, Lemuel P	Boston, Mass	Machine for detaching short fibres from cotton seed	June 25, 1861.
423	Jenne, Lansing K., assignor to self and William Ashley	Grand Rapids, Mich	Corn planters	Feb. 12, 1861.
1870	Jenness, John S	Bangor, Me	Electro magnet	July 23, 1861.
664	Jennings, George W	Boston, Mass	Mowing machines	Mar. 12, 1861.
2585	Jennings, John, jr	Natick, Mass	Spokeshaves	Oct. 29, 1861.
1367	Jennings, John H	New Bedford, Mass	Calk for horseshoes	May 21, 1861.
2277	Jennings, Lewis, assignor to self and R. Dickinson and Joseph C. Fuller.	Brooklyn, N. Y	Filtering cup	Sept. 10, 1861.
1323	Jessup, Gilbert	Chapinville, N. Y	Seeding machines	June 25, 1861.
1396	Jewell, Ira, assignor to David M. Osborne	Wheaton, Ill	Harvesters	May 21, 1861.
169	Jewell, Levi	Stratham, N. H	Fire-escapes	Jan. 22, 1861.
	Jewett & Root. (*See* Stanard, Walter W., assignor.)			
	Jewett & Root. (*See* Stanard, Walter W., assignor.)			
	Jewett & Root. (*See* Stanard, Walter W., assignor.)			
715	Jinnett, Elsberry L	Vermillion county, Ill	Bee hives	Mar. 19, 1861.
2883	Joeckel, William H	New York, N. Y	Seat for railroad cars and schools	Dec. 10, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2990	Joeckel, William H	New York, N. Y	Seat for schools, &c	Dec. 24, 1861.
2524	Johns, William B	Georgetown, D. C	Convertible cloak and tent	Oct. 22, 1861.
2992	Johns, William B	Georgetown, D. C	Saddle leggings	Dec. 24, 1861.
2991	Johns, William B	Georgetown, D. C	Portable fireplaces	Dec. 24, 1861.
	Johnson, Alfred. (*See* Mahan, Charles, sr., assignor.)			
61	Johnson, Albert F	Boston, Mass	Trade-mark. (Design)	May 28, 1861.
2389	Johnson, Algernon K., and Lorenzo Dow	Middletown, Conn	Envelopes for cartridges	Oct. 1, 1861.
205	Johnson & Bartlett, assignors to Gove & Howard, assigned to Singer & Clark.	Boston, Mass. / Stoneham, Mass.	Sewing machines	Jan. 22, 1861.
1025	Johnson, Chester L., assignor to Colver, Allen M	Little Falls, N. Y	Rotary pump	April 9, 1861.
1871	Johnson, Cecil G	London, England	Boots and shoes. (Patented in England April 2, 1860)	July 23, 1861.
458	Johnson, D. A	Chelsea, Mass	Mode of riveting the spokes and felloes of wooden wheels	Feb. 19, 1861.
1942	Johnson, D. A	Chelsea, Mass	Mode of *securing* spokes in the fellies of wheels	July 30, 1861.
54	Johnson, Frank G., assignor to self, W. T. B. Milliken, and E. Jones.	Brooklyn, N. Y	Water metres	Jan. 1, 1861.
316	Johnson, Frank G	Brooklyn, N. Y	Locks	Feb. 5, 1861.
2884	Johnson, H. W	Athens, Pa	Washing machine	Dec. 10, 1861.
2586	Johnson, Isaiah	Alliance, Ohio	Non-swagging gate-posts	Oct. 29, 1861.
16	Johnson, Jasper	Geneseo, N. Y	Gate. (Reissue)	Jan. 8, 1861.
312	Johnson, Jasper	Geneseo, N. Y	Gate. (Additional improvement)	Jan. 29, 1861.
206	Johnson, Josee, assignor to self and John Ward, jr	New York, N. Y	Stilts	Jan. 22, 1861.
349	Johnson, Josee, assignor to self and John Ward, jr	New York, N. Y	Folding table	Feb. 5, 1861.
1731	Johnson, Leonard J., assignor to self and James E. Owens.	Philadelphia, Pa	Match-holders	July 2, 1861.
1694	Johnson, Nathaniel	New York, N. Y	Camp stool	July 2, 1861.
350	Johnson, Stephen, assignor to self and Lyman E. Damon	Cold Spring, N. Y	Seed planters	Feb. 5, 1861.
1063	Johnston, C	Clarksville, Mo	Shot pouches	April 16, 1861.
978	Johnston, James J	Alleghany, Pa	Distillation of hydro-carbon oils	April 9, 1861.
804	Johnston, Michael	South Boston, Mass	Cigar-holders	Mar. 26, 1861.
2644	Jones, Abram H	Fallsington, Pa	Corn sheller	Nov. 5, 1861.
1131	Jones, Alfred C	Philadelphia, Pa	Pipe joint	April 23, 1861.
	Jones, E., *et al.* (*See* Johnson, Frank G., assignor.)			
2083	Jones, E. L., and M. E. Carter	St. Louis, Mo	Dovetailing machines	Aug. 20, 1861.
	Jones, H. P. (*See* Harrah, Baldwin & Jones.)			
	Jones, James, *et al.* (*See* Sprague, Joseph W., assignor.)			
	Jones, Joseph W. (*See* Blythe, John O., assignor.)			
1368	Jones, John, and A. K. Rider	New York, N. Y / Poultney, Vt.	Rotary pumps	May 21, 1861.
	Jones & Lauth. (*See* Lauth, B., assignor.)			
2887	Jones, P. Franklin	New York, N. Y	Operating heavy guns	Dec. 10, 1861.
	Jones, Rufus, *et al.* (*See* Felker, Valentine, assignor.)			
2145	Jones, Samuel F	St. Paul, Ind	Mole ploughs	Aug. 27, 1861.
2084	Jones, Sylvanus D	North Dighton, Mass	Washing machine	Aug. 20, 1861.
1851	Jones, S. R	York, Pa	Roofing	July 16, 1861.
388	Jones, T. B	Earlville, Ill	Seeding machines	Feb. 12, 1861.

	Jones, Warren, Scofield & Wardwell. (*See* Warren, Scofield, Wardwell & Jones.)			
241	Jones, William	St. Louis, Mo.	Hemp brakes	Jan. 29, 1861.
1293	Jones, William, and P. Haughian	Brooklyn, N. Y. / New York, N. Y.	Sewing machines	May 14, 1861.
	Jordan, Joseph, jr., *et al.* (*See* Sweetland, Geo., assignor.)			
317	Jordan, Joseph, jr	East Hartford, Conn	Mills for grinding paper pulp	Feb. 5, 1861.
2431	Joslyn, Benjamin F.	Worcester, Mass	Fire-arms	Oct. 8, 1861.
	Joslin, William	Cleveland, Ohio	Machinery for manufacturing cordage (Extension.)	Jan. 15, 1861.
	Joyce, J. L., and E. Heaton. (*See* Heaton & Joyce.)			
1475	Joynes, Richard F.	Bristol, R. I.	Cultivators	June 4, 1861.
1421	Joynes, Richard F.	Bristol, R. I.	Steering apparatus	May 28, 1861.
242	Judd, Edward M.	New Britain, Conn	Curtain fixtures	Jan. 29, 1861.
979	Judson, Anson	Brooklyn, N. Y.	Lamps	April 9, 1861.
2739	Judson, Junius	Rochester, N. Y.	Governors for steam-engines	Nov. 19, 1861.
687	Juengst, George, assignor to J. McCrossman and T. J. McArthur.	New York, N. Y.	Sewing machines	Mar. 12, 1861.
1476	Junkins, John H.	Upper Sandusky, Ohio	Trusses of bridges	June 4, 1861.
	Justice, L. W. (*See* Lathrop & Justice.)			
603	Kacfer, Mathaus	Factoryville, N. Y.	Transmitting motion	Mar. 5, 1861.
2645	Kaestner, August	New York, N. Y.	Lamps	Nov. 5, 1861.
2037	Kaiser, Charles	New York, N. Y.	Engine for cutting saw teeth	Aug. 13, 1861.
2038	Kaiser, Charles	New York, N. Y.	Machine for grinding needle points	Aug. 13, 1861.
2703	Kaiser, Charles	New York, N. Y.	Machinery for making needles	Nov. 12, 1861.
2943	Kaiser, Charles	New York, N. Y.	Machines for polishing the eyes of needles	Dec. 17, 1861.
2838	Kane, P., and W. Floyd	South Perry, Ohio	Burglar's alarm	Dec. 3, 1861.
	Kane, William J. (*See* Speer, James A., jr., assignor.)			
	Kasefang, F., *et al.* (*See* Muller & Major, assignors.)			
459	Kaufman, Daniel	Boiling Spring, Pa.	Broom	Feb. 19, 1861.
1661	Kay, William R. and Henry E., assignors to themselves and Benjamin D. Kay.	Westerly, R. I.	Car brakes	June 25, 1861.
2146	Kearney, Lawrence	New York, N. Y.	Washing machine	Aug. 27, 1861.
2039	Keeling, E. F.	Milton, Ohio	Harvester cutter grinder	Aug. 13, 1861.
3033	Keene, George W.	Lynn, Mass.	Heels for boots and shoes	Dec. 24, 1861.
	Keene, Stimpson, Waters & Sheperd. (*See* Jenkins, J., assignor.)			
2248	Keep, E. J., and W. H. Briggs	Stockton, Cal.	Horse-power machines	Sept. 10, 1861.
2197	Keese, R., D. T. Ward, and J. G. Wilkison	Cardington, Ohio	Flood gates	Sept. 3, 1861.
1563	Keezer, John	Chilicothe, Ohio	Cultivators	June 18, 1861.
80	Keller, John F.	Green Castle, Pa.	Machine for sowing fertilizers	Jan. 8, 1861.
1564	Kelley, E. G., and A. H. Tait	New York, N. Y. / Jersey City, N. J.	Apparatus for distilling oils	June 18, 1861.
	Kellogg, H. C., and Thomas Langdon. (*See* Langdon & Kellogg.)			
2646	Kellogg, O. W.	Ripon, Wis.	Road scraper	Nov. 5, 1861.
116	Kells, P. H., assignor to Thomas H. Dodge	Washington, D. C.	Harvesters (Reissue.)	Aug. 13, 1861.
117	Kells, P. H., assignor to Thomas H. Dodge	Washington, D. C.	Harvesters (B, division of reissue.)	Aug. 13, 1861.
118	Kells, P. H., assignor to Thomas H. Dodge	Washington, D. C.	Harvesters (C, division of reissue.)	Aug. 13, 1861.
119	Kells, P. H., assignor to Thomas H. Dodge	Washington, D. C.	Harvesters (D, division of reissue.)	Aug. 13, 1861.
	Kellum, Eli. (*See* Birdsell, William H., assignor.)			
1872	Kelsey, E. A.	Meriden, Conn.	Coffee and tea pots	July 23, 1861.
2704	Kelsey, George R.	West Haven, Conn.	Curtain fixture	Nov. 12, 1861.
	Kelty, Gibbon L., *et al.* (*See* Harold, Thos. Geo., assignor.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Kelty, Gibbon L. (*See* Maynard, Edward.)			
72	Kelty, Gibbon L.	New York, N. Y.	Window shade material. (Design)	July 9, 1861.
716	Kendall, E. Dwight	New York, N. Y.	Apparatus for napthalizing gas	Mar. 19, 1861.
2705	Kendall, J. B.	Boston, Mass.	Horseshoe. (Reissue)	Nov. 12, 1861.
	Kendrick, Green. (*See* Stever, Jeremiah, assignor.)			
	Kendrick, Green, *et al.* (*See* Randall, D. F., assignor.)			
2147	Keniston, Charles	West Cambridge, Mass	Shoe-pegging machine	Aug. 27, 1861.
	Kennedy, M., and R. W. Hunt. (*See* Hunt & Kennedy.)			
	Kennedy, M., and R. W. Hunt. (*See* Hunt & Kennedy.)			
1128	Kenyon, B. B, and Ira S. Brown	Hopkinton, R. I.	Water wheels	April 30, 1861.
460	Kenyon, James P.	Brooklyn, N. Y.	Hydrants	Feb. 19, 1861.
1624	Kern, Davonst	York, Pa.	Process for preparing the flanking of leather for soling, &c.	June 25, 1861.
1422	Kerr, Patrick	New Bethlehem, Pa.	Furnaces for smelting iron ore	May 28, 1861.
3034	Kershaw, Robert	Philadelphia, Pa.	Gig mills	Dec. 24, 1861.
1769	Kesmodel, Frederick	San Francisco, Cal.	Apparatus for taking casts for pads	July 9, 1861.
57	Ketchum, William F.	Buffalo, N. Y.	Track clearers to harvesters. (Reissue)	Mar. 26, 1861.
2085	Ketchum, William F.	Buffalo, N. Y.	Hand grenades	Aug. 20, 1861.
170	Kettell, Daniel G	Worcester, Mass	Harness, for preventing the fore legs of horses from interfering with.	Jan. 22, 1861.
	Ketting, William, and John Miller. (*See* Miller & Ketting.)			
1189	Kettler, Frederic	Milwaukie, Wis.	Stump extractor	April 30, 1861.
	Kiefer, Jacob, and Gustavus Zcheeh. (*See* Zcheeh & Kiefer.)			
1943	Kieser, Charles	Baltimore, Md.	Machine for bending 5th wheels for wagons	July 30, 1861.
980	Kilbourn, J. K. & E. E.	Norfolk, Conn.	Knitting machines. (Patented in England April 20, 1859.)	April 9, 1861.
2888	Killam, Henry	New Haven, Conn.	Stop for coach doors	Dec. 10, 1861.
2740	Kimball, Daniel S.	Lowell, Mass.	Carding engines	Nov. 19, 1861.
81	Kimball, E. W.	Ottawa, Ill.	Corn planters	Jan. 8, 1861.
19	Kimball, John C.	New Haven, Conn.	Self-adjustingcarriage seats	Jan. 1, 1861.
	Kincy, Henry, *et al.* (*See* Sweetland, George, assignor.)			
171	King, D. A., and T. Norris	Lexington, Ky.	Dovetailing machine	Jan. 22, 1861.
	King, John, and George Wood. (*See* Wood & King.)			
1064	King, Thomas	West Farms, N. Y.	Power looms	April 16, 1861.
	King, Zenus, and P. M. Frees. (*See* Frees & King.)			
43	Kinman, Ira	Freeport, Ill.	Measuring faucets. (Reissue)	Mar. 5, 1861.
2432	Kinsley, Edward G.	Stoughton, Mass.	Flexible soles	Oct. 8, 1861.
1516	Kinsley, Rhodolphus	Springfield, Mass.	Bell-ringing apparatus	June 11, 1861.
	Kinzie, Sol., and G. B. Vroom. (*See* Vroom & Kinzie.)			
927	Kipling, H., assignor to J. B. Behrmann	New York, N. Y.	Bracelets	April 2, 1861.
1190	Kirby, Archibald	Paris, Ill.	Excavator	April 30, 1861.
1732	Kirby, William A., assignor to self and David M. Osborne	Buffalo, N. Y.	Harvesting machines	July 2, 1861.
106	Kirby, William A., assignor to self and David M. Osborne	Auburn, N. Y.	Harvesters. (Reissue)	July 9, 1861.
541	Kirchof, Charles	New York, N. Y.	Method of integrating inconstant electric currents	Feb. 26, 1861.
1269	Kirchhoffer, George W.	Cincinnati, Ohio	Apparatus for distilling coal oils	May 21, 1861.
2886	Kirk, Edward, jr.	New York, N. Y.	Cook stoves	Dec. 10, 1861.

1517	Kirkham, W. S.	Branford, Conn	Locks and knob latches	June 11, 1861.
	Kirkham, W. S. (*See* Hill, Albert M., assignor.)			
004	Kleiber, Jacob	Memphis, Tennessee	Swimming propeller	Mar. 5, 1861.
1944	Klepper, Joseph	Wooster, Ohio	Tire-bending machine	July 30, 1861.
	Klinefelter, Jesse, *et al.* (*See* Schilling, William, assignor.)			
571	Knapp, A. H., assignor to self and George W. Tisdale	Newton Centre, Mass	Coal sifter and shovel	Feb. 26, 1861.
845	Knapp, A. Haydon, assignor to self and Geo. W. Tisdale	Newton Centre, Mass	Scissors	Mar. 26, 1861.
	Knapp, Alvin P. (*See* Sargent S., assignor.)			
2993	Knapp, George S.	Dubuque, Iowa	Harvesters	Dec. 24, 1861.
108	Knapp, Gilbert	Honesdale, Pa	Cooks' stove (Design)	Sept. 3, 1861.
1397	Kneass, Strickland, assignor to Samuel James Creswell	Philadelphia, Pa	Sewer inlets	May 21, 1861.
2885	Kneeland, William C	Brooklyn, N. Y	Cigars	Dec. 10, 1861.
2995	Kniffen, L. G	Worcester, Mass	Cutting apparatus for harvesters	Dec. 24, 1861.
2994	Kniffen, L. G	Worcester, Mass	Mowing machines	Dec. 24, 1861.
1294	Knight, Henry	Jersey City, N. J	Manufacture of hydraulic cement pipes	May 14, 1861.
2148	Knight, Henry	Jersey City, N. J	Combination cement and metal pipes	Aug. 27, 1861.
1100	Knight, Luke L., assignor to E. and E. B. Hastings	Barre, Mass	Clothes frame	April 16, 1861.
172	Knowles, Benjamin F	Providence, R. I	Harness motion for looms	Jan. 22, 1861.
	Knowlton, H. C., and John A. Dyer. (*See* Dyer & Knowlton.)			
1565	Knox, M. J	Knox Corners, N. Y	Clothes frame	June 18, 1861.
1874	Kober, G	New York, N. Y	Water metres	July 23, 1861.
1370	Koch, John C	New York, N. Y	Portfolios for filing music, printed matter, &c	May 21, 1861.
1423	Kohler, Ambrose	Boston, Mass	Heating apparatus	May 28, 1861.
2647	Kollinsky, C., J. Ehrlich, and Albert J. de Zeyk	Washington, D. C	Military fatigue caps	Nov. 5, 1861.
1625	Korn, Charles	Meriden, Conn	Machine for dressing leather	June 25, 1861.
1566	Krause, Frederick W., and G. W. Strong	Chicago, Ill	Grinding mill	June 18, 1861.
2014	Krauser, John L., assignor to self, James Harper, and John H. Brown.	Philadelphia, Pa	Nail machine	Aug. 6, 1861.
	Kreps, Henry, and Charles O'Bryan. (*See* O'Bryan & Kreps.)			
1132	Kuhlenschmidt, W	New York, N. Y	Button fastenings	April 23, 1861.
1626	Kuhn, Jacob	Centreville, Pa	Machine for hulling and cleaning clover seed	June 25, 1861.
2414	Kums, Theodore F., assignor to Mary Manny	Rockford, Ill	Automatic rakes for harvesters	Oct. 1, 1861.
2415	Kums, Theodore F., assignor to Mary Manny	Rockford, Ill	Automatic rakes for harvesters	Oct. 1, 1861.
2416	Kums, Theodore F., assignor to Mary Manny	Rockford, Ill	Automatic rakes for harvesters	Oct. 1, 1861.
173	La Bau, J. H	New York, N. Y	Machines for finishing hats	Jan. 22, 1861.
2889	Lacroix, Eugene, jr	Rouen, France	Marine propeller	Dec. 10, 1861.
1696	Ladd, A. W. P	San Francisco, Cal	Faucets	July 2, 1861.
981	Laing, John	Hoboken, N. J	Gas generating steam boiler	April 9, 1861.
2481	Lair, J. A. F	France	Process for reducing copies of engravings, &c	Oct. 15, 1861.
2944	Lairdieson, John L	Troy, N. Y	Apparatus for varnishing loom handles	Dec. 17, 1861.
9	Lake, Jesse S. and David, assignors to James A. Saxton	Smith's Landing, N. J. Canton, Ohio	Grass harvesters (Reissue.)	Jan. 1, 1861.
10	Lake, Jesse S. and David, assignors to James A. Saxton	Smith's Landing, N. J. Canton, Ohio	Grass harvesters (Division of reissue.)	Jan. 1, 1861.
11	Lake, Jesse S. and David, assignors to James A. Saxton	Smith's Landing, N. J. Canton, Ohio	Grass harvesters (Division of reissue.)	Jan. 1, 1861.
12	Lake, Jesse S. and David, assignors to James A. Saxton	Smith's Landing, N. J. Canton, Ohio	Grass harvesters (Division of reissue.)	Jan. 1, 1861.
	Lake, Nelson, *et al.* (*See* Reese, Gould & Lake.)			
1065	Lamb, Anthony	Cambridge, Mass	Bookcase	April 16, 1861.
2433	Lamb, Noyes D	Norwich, Conn	Alarm whistles	Oct. 8, 1861.
1875	Lambert, Benjamin	Warren street, Dover road, England	Treatment of printed paper to remove ink and recover the pulp. (Patented in England July 6, 1861.)	July 23, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Lammrich, C., *et al.* (*See* Herdtfelder, George, assignor.)			
2346	La Motte, B. J.	New York, N. Y.	Metallic cars for railroads	Sept. 24, 1861.
	Lancaster, P., and Charles Powers. (*See* Powers & Lancaster.)			
1477	Landell, John H	Newark, N. J.	Tent fixtures	June 4, 1861.
142	Landell, John H	Newark, N. J.	Tent fixtures (Reissue)	Dec. 17, 1861.
665	Landis, Jacob H	Eden, Pa.	Meat chopper	Mar. 12, 1861.
67	Landon, Frederick, assignor to Huntley, Bowman & Co.	Brockport, N. Y.	Harvesters (A, reissue)	April 16, 1861.
66	Landon, Frederick, assignor to Huntley, Bowman & Co.	Brockport, N. Y.	Harvesters (Div. B, of reissue)	April 16, 1861.
1442	Landon, Frederick, assignor to B. E. Huntley, John M. Bowman, and Charles and Lafayette Silliman.	Brockport, N. Y.	Harvesters	May 28, 1861.
1478	Lane, Conrad M	Cincinnati, Ohio	Hinges	June 4, 1861.
1770	Lane, Dennis	Plainfield, Vt.	Method of "setting the log" in saw-mills	July 9, 1861.
1567	Lane, George	New York, N. Y.	Rulers	June 18, 1861.
2525	Lane, George C.	Buffalo, N. Y.	Camp chest	Oct. 22, 1861.
2761	Lane, John W., assignor to W. & B. Douglas	Newton, N. J.	Pumps	Nov. 19, 1861.
2086	Lane, Marcus	Washington, D. C.	Treating metals	Aug. 20, 1861.
2303	Lane, Marcus	Washington, D. C.	Shoemaker's measures	Sept. 17, 1861.
2945	Lane, Marcus	Washington, D. C.	Process of making iron and steel	Dec. 17, 1861.
243	Lanergan, Henry	East Cambridge, Mass.	Deck light	Jan. 29, 1861.
207	Langdon, L. W., assignor to self, Hiram Wells, and D. G. Littlefield.	Northampton, Mass.	Sewing machines	Jan. 22, 1861.
1295	Langdon, Thomas, and H. C. Kellogg	Quasqueton, Iowa	Broom	May 14, 1861.
	Langi, Oscar G., and C. B. Brown. (*See* Holt, James G., assignor.)			
	Lanphear, Stephen E. (*See* Barrett, Oliver D., assignor.)			
1662	Lape, Wm., assignor to self and F. R. Stow	Troy, N. Y.	Ploughs	June 25, 1861.
1832	Large, Joseph T.	Brooklyn, N. Y.	Barometers	July 16, 1861.
2996	Lasher, C. B	New York, N. Y.	Car brakes	Dec. 24, 1861.
	Lathrop, B., and H. Hathaway. (*See* Hathaway & Lathrop.)			
640	Lathrop, L. W., and L. B. Justice, assignors to L. W. Lathrop & Wetmore. (*See* Quann, William, assignor.)	Philadelphia, Pa.	Sewing machines	Mar. 5, 1861.
542	Lauth, B., assignor to firm of Jones & Lauth	Pittsburg, Pa.	Polishing iron bars or rods	Feb. 26, 1861.
244	Law, J., Albion	Meredith, N. Y.	Fire-escapes	Jan. 29, 1861.
2040	Lawbaugh, G. W., and John Williams	Shanesville, Ohio.	Cultivators	Aug. 13, 1861.
2149	Lawler, P. H., and John B. Dougherty	Spencerport, N. Y. / Rochester, N. Y.	Machines for forming barrel-heads	Aug. 27, 1861.
2434	Lawrence, Calvin B.	Nunda, N. Y.	Metallic lubricating compositions	Oct. 8, 1861.
2087	Lawrence D. Clinton	Cedar Falls, Iowa	Pen-holder and letter balance	Aug. 20, 1861.
1876	Lawrence, H., and C. H. White	Melrose, N. Y.	Lock for the nuts of railroad bolts	July 23, 1861.
	Lawrence, Wm. (*See* Wood, George, and John King, ass'rs.)			
	Lawton, C., and M. Grout. (*See* Grout & Lawton.)			
1696	Layton, John E	Pittsburg, Pa.	Fireplaces	July 2, 1861.
2587	Layton, John E	Pittsburg, Pa.	Back plate and chimney throat for fireplaces	Oct. 29, 1861.
	Leach, A., and L. J. Worden. (*See* Worden & Leach.)			

	Leach, J. D., and S. Hutchings. (See Hutchings & Leach.)			
	Leake, Robert, jr., and Joseph Lockett. (See Whittam, Robert, assignor.)			
717	Leavens, John	Brooklyn, N. Y.	Pressure gauge	Mar. 19, 1861.
1627	Lebkücher, A.	Belleville, Ill.	Lubricating compound	June 25, 1861.
2347	Lecky, R. H.	Allegheny City, Pa.	Machine for drilling oil wells	Sept. 24, 1861.
2348	Le Due, Charles	Boston, Mass.	Safe locks	Nov. 5, 1861.
119	Lee, G. W., and A. R. Reese	Phillipsburg, N. J.	Seeding machines	Jan. 15, 1861.
1628	Lee, Joel	Galesburg, Ill.	Water elevators	June 25, 1861.
2348	Lee, Joel	Galesburg, Ill.	Washing machine	Sept. 24, 1861.
2349	Lee, Joel	Galesburg, Ill.	Clothes dryer	Sept. 24, 1861.
2341	Lee, Thomas	Newark, N. J.	Breech-loading fire-arm	Nov. 19, 1861.
2462	Lee, W. M.	Rosindale, Wis.	Bee hives	Oct. 15, 1861.
888	Leeds, Joseph	Philadelphia, Pa.	Furnaces for heating buildings	April 2, 1861.
389	Leeper, R. A., and Z. B. Kidder	San José, Ill.	Cultivators	Feb. 12, 1861.
2649	Lees, Josiah	Birmingham, England	Swivel hooks and rings. (Patented in England May 19, 1860.)	Nov. 5, 1861.
805	Lefaucheux, Eugene	Paris, France	Fire-arms	Mar. 26, 1861.
1331	Leffingwell, Chas. H., assignor to self and P. B. Carpenter	Providence, R. I.	Boot-legs	May 14, 1861.
461	Leffingwell, John G	Newark, N. J.	Gas-cocks	Feb. 19, 1861.
889	Leffingwell, John G., and G. W. Thompson	Newark, N. J. / New York, N. Y.	Gas-burners	April 2, 1861.
174	Lefler, Andrew B	Canton, Ind.	Cultivators	Jan. 22, 1861.
1995	Legouge, Louis F. A.	Grass Valley, Cal.	Quartz-crusher	Aug. 6, 1861.
20	Leibert, Henry	Norristown, Pa.	Lamps	Jan. 1, 1861.
	Leibrandt & McDowell. (See Smith & Brown, assignors.)			
	Leigh, Lewis, *et al.* (See Atwood & Leigh.)			
	Leighton, Thomas, *et al.* (See Hudson, Thomas S., ass'r.)			
2526	Leisen, Charles F.	Philadelphia, Pa.	Breech-loading ordnance	Oct. 22, 1861.
3024	Leitch, J. F., assignor to Orrin D. Carter	Greene, N. Y.	Fan-blower	Dec. 24, 1861.
2527	Lelong, L., and J. Decamp	Newark, N. J.	Implement for feeding percussion caps	Oct. 22, 1861.
1296	Lenain, Denis	New York, N. Y.	Boots and shoes	May 14, 1861.
718	Lenoir, Jean J. E	Paris, France	Air engine	Mar. 19, 1861.
2320	Leonard, Amos	Sullivan, Ohio	Boring machines	Sept. 17, 1861.
124	Leonard, Bridget, administratrix of Andrew Leonard, deceased.	Kenosha, Wis.	Mode of casting seamless skeins for wagons..(Reissue)	Oct. 8, 1861.
125	Leonard, Bridget, administratrix of Andrew Leonard, deceased.	Kenosha, Wis.	Cast seamless thimble-skeins for wagons. (Div. of reissue)	Oct. 8, 1861.
	Leopold, F. (See Voerkamp & Leopold.)			
245	Letts, John A.	Trumansburg, N. Y.	Adjustable carriage brakes	Jan. 29, 1861.
246	Letz, George F.	Chicago, Ill.	Rolling iron shutters	Jan. 29, 1861.
1996	Levalley, Benjamin, and B. Sterry	Hartford, Conn. / Manchester, Conn	Temples	Aug. 6, 1861.
1771	Le Van, W. Barret	Philadelphia, Pa.	Water-gauges for steam boilers	July 9, 1861.
	Levett, Morris, and Bridge Frodsham. (See Frodsham & Levett.)			
	Levrat, Henry. (See Millochan, Adolphe M., assignor.)			
982	Levy, Mark	New York, N. Y.	Retorts for the manufacture of gas from wood	April 9, 1861.
1877	Lewis, O. W	Janesville, Wis.	Pumps	July 23, 1861.
1772	Lewis, Ezra H	Wilbur, N. Y.	Machines for polishing stone	July 9, 1861.
2249	Lewis, Ezra H.	Kingston, N. Y.	Stone-dressing machines	Sept 10, 1861.
1629	Lewis, H. S.	Chicago, Ill.	Processes for refining lard	June 25, 1861.
61	Lewis, J. W	Providence, R. I.	Blacking box holder	Jan. 1, 1861.
462	Lewis, Russell R.	New York, N. Y.	Vapor burners for heating, &c	Feb. 19, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Lewis, Triastam T., *et al.* (*See* Haynes, James, assignor.)			
983	Light, Richard B.	Dunkirk, N. Y.	Machinists' instrument for determining geometrical lines, centres, &c.	April 9, 1861.
2948	Lighthall, William A.	New York, N. Y.	Steam condenser	Dec. 17, 1861.
543	Lighthall, William A.	New York, N. Y.	Refrigerator for cooling the condensing water and condensed steam of steam-engines.	Feb. 26, 1861.
605	Lighthall, William A.	New York, N. Y.	Method of supplying water to steam vessels for the purpose of condensing steam or cooling water.	Mar. 5, 1861.
984	Lighthall, William A.	New York, N. Y.	Feed-water apparatus for steam boilers	April 9, 1861.
1518	Lighthall, William A.	New York, N. Y.	Construction of tube-sheets for coolers and condensers.	June 11, 1861.
2947	Lighthall, William A.	New York, N. Y.	Condensers for steam-engines	Dec. 17, 1861.
2946	Lighthall, William A.	New York, N. Y.	Method of setting tubes for condensers	Dec. 17, 1861.
719	Lighter, Jacob	Clay Village, Ky.	Medicinal compounds to cure hog cholera	Mar. 19, 1861.
	Limebeck, H. W., and A. Hoffman. (*See* Hoffman & Limebeck.)			
	Lincoln, George S., & Co. (*See* Pratt, Francis A., ass'r.)			
	Lindergreen, N. P., *et al.* (*See* Lofvendahl, Joseph, ass'r.)			
544	Lindner, Edward			
1945	Lindner, Edward	New York, N. Y.	Furniture caster	Feb. 26, 1861.
19	Lindsay, Geo., and Wm. Cameron, assignors to Wm. Cameron.	New York, N. Y.	Mode of preparing projectiles for ordnance	July 30, 1861.
		Petersburg, Va.	Tobacco presses (Reissue)	Jan. 15, 1851.
1630	Lindsley, Isaac			
1997	Lindsley, Thales	Providence, R. I.	Looms for weaving hair cloth	June 25, 1861.
390	Linton, Wm	Moline, Ill.	Oar	Aug. 6, 1861.
1697	Lippincott, John	Baltimore, Md.	Machines for moulding pottery	Feb. 12, 1861.
	Liquid Quartz Co. (*See* Vanderburgh, Geo. E., assignor.)	Pittsburg, Pa.	Manufacture of shovels and spades	July 2, 1861.
	Litchfield, H. T. (*See* Porter, Rufus, assignor.)			
	Littell, J. S. (*See* Phillips, Geo. B., assignor.)			
	Littell, Jno. S. (*See* Phillips, Geo. B., assignor.)			
	Little, A. B., *et al.* (*See* Wells, Wm., assignor.)			
606	Little, R.			
1191	Little, William B.	Middle Branch, Ohio	Device to prevent hogs from rooting	Mar. 5, 1861.
1631	Littlefield, Dennis G.	New York, N. Y.	Sign	April 30, 1861.
132	Littlefield, Dennis G.	Albany, N. Y.	Fire-pot for coal stoves	June 25, 1861.
133	Littlefield, Dennis G.	Albany, N. Y.	Stoves (Reissue.)	Nov. 19, 1861.
	Littlefield & Wells. (*See* Langdon, L. W., assignor.)	Albany, N. Y.	Stoves (Division of reissue)	Nov. 19, 1861.
	Littlejohn, Frederic S. (*See* Wyberd, John, assignor.)			
	Littlejohn, Hiram, and J. W. Valance. (*See* Valance & Littlejohn.)			
2350	Livingston, A. A.			
2390	Livingston, William H.	Cedar Rapids, Iowa	Stirrups	Sept. 24, 1861.
463	Lobdell, George G.	New York, N. Y.	Method of attaching handles to picks, &c.	Oct. 1, 1861.
1192	Locke, Harvey	Wilmington, Del.	Railroad car wheels	Feb. 19, 1861.
	Locke, Jesse A., *et al.* (*See* Davis, Joseph, assignor.)	South Boston, Mass.	Pumps	April 30, 1861.
806	Locke, Wm. H.	Canton, Pa.	Scrolls of water wheels	Mar. 26, 1861.

	Lockett, Joseph, and Robert Leake, jr. (*See* Whittam, Robert, assignor.)			
1101	Lofvendahl, Jos., assignor to self, N. P. Lindergreen, and E. Ehlin.	East Boston, Mass.	Button fastener	April 16, 1861.
666	Lombaert, Herman J.	Philadelphia, Pa	Draught bars for railroad cars	Mar. 12, 1861.
668	Loudon, John, and H. Iversen	New York, N. Y.	Ventilators for windows	Mar. 12, 1861.
21	Long, John	Massillon, Ohio	Cooking stove (Design)	Feb. 19, 1861.
890	Long, Josiah, assignor to J. G. Wolf	Morristown, Ind	Wagon brakes	April 2, 1861.
20	Long, Robt. H.	Philadelphia, Pa.	Arrangement of steam-engines for propelling street passenger cars. (Reissue.)	Jan. 15, 1861.
807	Long, Stephen H., U. S. A.	Alton, Ill.	Dredging machine	Mar. 26, 1861.
846	Long, W. A. N., assignor to I. B. Rand	Fisherville, N. H.	Bed foundation	Mar. 26, 1861.
2041	Long, Wm. A. N., assignor to I. B. Rand. Long, W. A. N., and Isaac B. Rand. (*See* Rand & Long.)	Fisherville, N. H.	Rocking cradle	Aug. 13, 1861.
351	Longacre, M. C., assignor to self and R. R. Herrick	Cleveland, Ohio	Churn	Feb. 5, 1861.
73	Loper, Richard F.	Philadelphia, Pa.	Ship building (Reissue)	May 7, 1861.
17	Loper, Richard F.	Philadelphia, Pa	Ship building (Extension)	Nov. 6, 1861.
2890	Lord, Charles W.	New York, N. Y.	Pen and pencil case	Dec. 10, 1861.
667	Lord, M. B. & S. J.	Ellsworth, Maine	Brakes for sleighs	Mar. 12, 1861.
2304	Lord, Richard	Pawtucket, Mass.	Air engines	Sept. 17, 1861.
2650	Lorton, Alfred H.	New York, N. Y.	Potato masher	Nov. 5, 1861.
136	Louis, Peter, assignor to self and Hiram Wendel	New York, N. Y.	Stopping and starting railroad cars	Jan. 15, 1861.
2839	Lounsburry, Mark	Seymour, Conn.	Fruit gatherers	Dec. 3, 1861.
2528	Love, John B.	Philadelphia, Pa.	Means of attaching armor to navigable vessels and water batteries.	Oct. 22, 1861.
175	Loveless, C. B.	Tom's River, N. J	Vapor lamps	Jan. 22, 1861.
1519	Lowe, Henry	Baltimore, Md.	Manufacture of caustic soda	June 11, 1861.
2949	Lowe, Henry	Baltimore, Md.	Process of recovering soda used in manufacture of paper stock.	Dec. 17, 1861.
2088	Lowe, Henry	Baltimore, Md.	Paper pulp or stock	Aug. 20, 1861.
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.)			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.)			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.)			
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	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.)			
	Lowell Manufacturing Co. (*See* Ney, Elemir J., assignor.)			
1066	Loury, Thomas J.	Conneautville, Pa.	Transmitting power	April 16, 1861.
1332	Luce, C. O., assignor to self, Strong, & Estabrook	Brandon, Vt.	Washing machine	May 14, 1861.
2391	Luckhaupt, Adam	Columbus, Ohio	Wood-bending machines	Oct. 1, 1861.
464	Ludden, William A.	Brooklyn, N. Y.	Smoking tubes	Feb. 19, 1861.
2305	Ludlow, H. G., 2d.	Waterford, N. Y.	Sliding stop-valves	Sept. 17, 1861.
1998	Ludlow, W. D.	New York, N. Y.	Stopping jars, &c.	Aug. 6, 1861.
1067	Lull, George	Hardin, Iowa	Grain separators	April 16, 1861.
1068	Luther, Curtis	Newbury, Ohio	Wheelwright's machine	April 16, 1861.
2721	Luther, John M., assignor to William E. Hartshorn. Luther, Jonathan. (*See* Holmes, Reuben G., assignor.)	Salina, N. Y.	Process of purifying brine for manufacture of salt	Nov. 12, 1861.
891	Lyman, David.	Middlefield, Conn.	Mode of attaching clothes wringer to a tub	April 2, 1861.
135	Lynch, Edward	Washington, D. C.	Steam-engines (Reissue.)	Dec. 3, 1861.
	Lynd, Ives. (*See* Clint & Lynd.)			

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
720	Lyon, Samuel H., and William E. Doubleday	Brooklyn, N. Y.	Bonnets	Mar. 19, 1861.
808	Lyons, James B.	Baltimore, Md	Stump extractor	Mar. 26, 1861.
142	Lyons, Thomas, assignor to Russell & Erwin Manufacturing Company.	New Britain, Conn	Horse spur (Design.)	Dec. 24, 1861.
1424	Mag, Jacob	Milwaukie, Wis	Wind wheel	May 28, 1861.
22	Mack, Albert G	Rochester, N. Y.	Machine for setting up barrels	Jan. 1, 1861.
139	Mackay, John S., assignor to self and Hugh Mackay	Brooklyn, N. Y.	Mending fire-engine hose	Jan. 15, 1861.
1663	Mackay, Walter G., assignor to Peter P. Cornen	New York, N. Y.	Machine for bronzing wall paper, &c	June 25, 1861.
2706	Mackenzie, John W.	Brooklyn, N. Y.	Fire-escape	Nov. 12, 1861.
	Mackey, A., and J. W. Jarboe. (*See* Jarboe & Mackey.)			
2351	Maddock, John	Dubuque, Iowa	Hounds of carriages	Sept. 24, 1861.
1160	Magee, John, assignor to self and William J. Town	Lawrence, Mass	Stoves	April 23, 1861.
2915	Magee, John, assignor to Norton Furnace Company	Boston, Mass.	Stove grates	Dec. 10, 1861.
892	Magersuppe, George H	New York, N. Y	Lanterns	April 2, 1861.
2620	Mahan, Charles, *sr.*, assignor to self and Alfred Johnson	Jamestown, Ohio	Clod crusher	Oct. 29, 1861.
	Maher, Edmund, and William McCord. (*See* McCord & Maher.)			
809	Main, William H.	Liverpool, Ohio	Rotary harrows	Mar. 26, 1861.
	Majer, C., *et al.* (*See* Muller & Majer, assignors.)			
607	Mallette, G. B.	Millport, N. Y.	Portable field fences	Mar. 5, 1861.
893	Mallary, George H.	New York, N. Y.	Sewing machines	April 2, 1861.
810	Mallory, James E.	New York, N. Y.	Preparation of fibre for the manufacture of paper	Mar. 26, 1861.
545	Maloy, Daniel H.	Temperance, Ga	Ploughs	Feb. 26, 1861.
	Mangels, H. C., *et al.* (*See* Behr, Edward, assignor.)			
465	Manley, J. G., and F. Wedge	Zanesville, Ohio	Earth-boring machine	Feb. 19, 1861.
3022	Mann, Bela A., assignor to Jedediah Wilcox & H. H. Miller.	West Meriden, Conn	Machine for clasping hoops to ladies' skirts	Dec. 24, 1861.
2552	Mann, Charles G., assignor to Alfred B. Ely	Walpole, Mass.	Sewing machines	Oct. 22, 1861.
1133	Mann, Donald	Rochester, N. Y	Rotary spading machines	April 23, 1861.
1568	Mann, George, jr.	Ottawa, Ill	Safety-guard for steam boilers	June 18, 1861.
1069	Mann, Henry F	Laporte, Ind	Ploughs	April 16, 1861.
2783	Mann, Henry F	Laporte, Ind	Breech-loading ordnance	Nov. 26, 1861.
928	Mann, Robert J., assignor to Lewis A. Osborn and Isaac J. Vineent.	Brooklyn, N. Y	Method of manufacturing skeleton skirts	April 2, 1861.
2198	Mann, Robert J	Seneca Falls, N. Y	Metallic sleds	Sept. 3, 1861.
1193	Manny, Frederick H	Rockford, Ill	Harvesting machines	April 30, 1861.
	Manny, Mary. (*See* Emerson, Daniel S., assignor.)			
	Manny, Mary. (*See* Kurns, Theodore F., assignor.)			
	Manny, Mary. (*See* Kurns, Theodore F., assignor.)			
	Manny, Mary. (*See* Kurns, Theodore F., assignor.)			
318	Manross, Newton S	Forestville, Conn	Apparatus for lighting and extinguishing gas lights	Feb. 5, 1861.
2392	Mansfield, George A	Boston, Mass.	Boots and shoes	Oct. 1, 1861.
391	Mansfield, M. H	Ashland, Ohio	Apparatus for evaporating saccharine juices	Feb. 12, 1861.
1297	Mansfield, Martin H	Ashland, Ohio	Hangers for shafting	May 14, 1861.
1539	Mansley, Richard	Philadelphia, Pa	Machines for opening rope	June 11, 1861.
1194	Maples, Darius W	Homer, N. Y	Cheese-vat	April 30, 1861.

512	Mara, L. P., assignor to John B. Murray	New York, N.Y	Newspaper wrappers	Feb. 19, 1861.
608	Maranville, Galusha	Hampton Corners, N. Y	Calendar clocks	Mar. 5, 1861.
2435	Marble, F. E	New York, N.Y	Sewing machines	Oct. 8, 1861.
1946	Marcher, Robert	New York, N.Y	Apparatus for laying metal leaf on mouldings, &c	July 30, 1861.
	Marcher, Robert J. (*See* Barbor, I. S., assignor.)			
2250	Marcus, Siegfried	Vienna, Austria	Relay magnets (Patented in Saxony Aug. 23, 1860.)	Sept. 10, 1861.
2089	Marcy, Perry	Tunkhannock, Pa	Potato diggers	Aug. 20, 1861.
2393	Marden, Jeremiah A	Newburyport, Mass	Looms	Oct. 1, 1861.
721	Markel, John	Monticello, Ill	Cultivators	Mar. 19, 1861.
2150	Markillie, Thomas R	Winchester, Ill	Churns	Aug. 27, 1861.
3023	Marquardt, Conrad, assignor to Maria M. Marquardt	Rhinebeck, N.Y	Whiffletree attachment	Dec. 24, 1861.
2784	Marsden, S. L., and S. R. Burrell	Westville, Conn New York, N.Y	Candlesticks	Nov. 26, 1861.
641	Marsh, Clark, assignor to Wheeler & Wilson Manufacturing Company.	Bridgeport, Conn	Hemming guides for sewing machines	Mar. 5, 1861.
	Marsh, E. S. (*See* Goewey, George, assignor.)			
1298	Marsh, James S	Lewisburg, Pa	Seed drills	May 14, 1861.
1371	Marsh, James S	Lewisburg, Pa	Harvesters	May 21, 1861.
546	Marsh, Joseph Y	New York, N Y	Curtain fixtures	Mar. 26, 1861.
2483	Marsh, Leonard	Burlington, Vt	Screws	Oct. 15, 1861.
2251	Marsh, S	West Roxbury, Mass	Locomotive engines for ascending inclined planes	Sept 10, 1861.
2651	Marsh, S. W	Washington, D. C	Breech-loading fire-arm	Nov. 5, 1861.
2221	Marshall, E. A., assignor to self and Thomas Carter	New York, N. Y	Tobacco pipes (Antedated Aug. 10, 1861.)	Sept. 3, 1861.
247	Marshall, Frank A	Marlborough, Mass	Lamp or candle stand	Jan. 22, 1861.
1833	Marshall, J. E	West Chester, Pa	Halter for horses	July 16, 1861.
1569	Marshall, Oliver W	Windsor Locks, Conn	Railroad switch	June 18, 1861.
1878	Marshall, Robert M	Dayton, Ohio	Machines for rolling candy	July 23, 1861.
	Marshall, Wm. H., and F. A. Ross. (*See* Ross & Marshall.)			
1425	Martin, Charles B	Fond du Lac, Wis	Grain separators	May 28, 1861.
547	Martin, E. C	Muscatine, Iowa	Ditching machine	Feb. 26, 1861.
2707	Martin, Emile	New York, N.Y	Self-fastening pins	Nov. 12, 1861.
722	Martin, Ferdinand	Marseilles, France	Anchors (Patented in England Aug. 27, 1859)	Mar. 19, 1861.
1026	Martin, Geo. W., assignor to self and Wm. Sheppard	Morrisania, N.Y	Pumps	April 9, 1861.
1102	Martin, Geo. W., assignor to self and Wm. Sheppard	Morrisania, N.Y	Wrench	April 16, 1861.
2252	Martin, Henry D	Ypsilanti, Mich	Ploughs	Sept. 10, 1861.
	Martin Jno. W. & Geo. G. (*See* Hunt, Walter, assignor.)			
2484	Martin, W. N	Providence, R.I	Sash-holder and fastener	Oct. 15, 1861.
2199	Martin, William P	Salem, Mass	Apparatus for stirring tan vats	Sept. 3, 1861.
	Martino, John, and James Horton. (*See* Horton & Martino.)			
	Martino, John, and James Horton, assignors to Stuart & Peterson. (*See* Horton & Martino, &c.)			
1027	Mason, A. C., assignor to self, H. H. Mason, and D. M. Smith.	Springfield, Vt	Hooks and eyes	April 9, 1861.
1070	Mason, Benjamin A	Newport, R. I	Splicing rails for railroads	April 16, 1861.
1999	Mason, M. W	Elbridge, N. Y	Ox yokes	Aug. 6, 1861.
	Mason, Snyder & Zwicki. (*See* Zwicki, C., assignor.)			
572	Mason, Wm., assignor to self and Lucius N. Fay	Warren, Mass	Wrench	Feb. 26, 1861.
2200	Mason, William M	Polo, Ill	Corn and cane harvesters	Sept. 3, 1861.
1134	Masser, H. B	Sunbury, Pa	Ice cream freezers	April 23, 1861.
2000	Masslich, Bentley	Union City, Ind	Apparatus for papering walls	Aug. 6, 1861.
21	Mathews, Theodore Dehon	St. Peter's Parish, S. C	Composition of castor-oil soaps	Jan. 1, 1861.
1443	Matteson, Elisha, assignor to L. D. Towsley	Brooklyn, N. Y	Apparatus for locomotion	May 28, 1861.
2742	Matteson, Elisha	Brooklyn, N. Y	Projectiles for fire-arms	Nov. 19, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
573	Matthews, J., assignor to self and Henry Egolf	Middletown, Pa	Grain separators	Feb. 26, 1861.
2743	Mattson, Morris	Boston, Mass	Enema syringes	Nov. 19, 1861.
	Maughlin, W. W., and R. K. Hawley. (*See* Hawley & Maughlin.)			
1299	Maule, Henry	Philadelphia, Pa	Time tell-tale	May 14, 1861.
2120	Mauran, Wm. A., assignor to Chase Bro. & Co	Boston, Mass	Camp bedstead	Aug. 20, 1861.
1479	Maxen, Horace	Hopkinton, R. I	Ropewalks	June 4, 1861.
	Maxwell, Robert A. (*See* Veerkamp & Leopold, assignors.)			
1247	May, John M	Janesville, Wis	Pumps	May 7, 1861.
2997	Mayall, Thomas J	Roxbury, Mass	India-rubber mats for floors, &c	Dec. 24, 1861.
2436	Mayall, Thomas J	Roxbury, Mass	Boot and shoe tips	Oct. 8, 1861.
176	Mayall, Thomas J	Roxbury, Mass	Polishing tools	Jan. 22, 1861.
548	Mayall, Thomas J	Roxbury, Mass	Caoutchouc hose tubing	Feb. 26, 1861.
610	Mayall, Thomas J	Roxbury, Mass	Water-proof hose	Mar. 5, 1861.
609	Mayall, Thomas J	Roxbury, Mass	Brushes	Mar. 5, 1861.
2201	Mayall, Thomas J	Roxbury, Mass	Flower pots	Sept. 3, 1861.
1372	Mayall, Thomas J	Roxbury, Mass	Ordnance	May 21, 1861.
1733	Mayall, Thomas J., assignor to Cyrus Wakefield	Roxbury, Mass	Mode of cutting ratan into strands	July 2, 1861.
2744	Mayberry, J. C. and C. N	White Rock, Ill	Harvesting machines	Nov. 19, 1861.
63	Maydole, James H., and A. W. Morse, assignors to *Albert* W. Morse.	Eaton, N. Y	Grass harvesters. (Reissue.)	April 2, 1861.
2001	Mayer, Ferdinand F	New York, N. Y	Bleaching fatty substances	Aug. 6, 1861.
894	Maynard, Edward	Washington, D. C	Cartridge loaders	April 2, 1861.
87	Maynard, Edward	Washington, D. C	Metallic cartridge cases. (Reissue.)	May 28, 1861.
63	Maynard, Edward	Brooklyn, N. Y	Curtain loops. (Design.)	May 28, 1861.
2352	Maynard, J. F	Nashua, N. H	Flyers for spinning machines	Sept. 24, 1861.
2306	Mayo, William S	New York, N. Y	Fence posts	Sept. 17, 1861.
	McArthur, T. J., and J. McCrossan. (*See* Juengst, George, assignor.)			
319	McBride, A. Z	Hannahatchee, Ga	Cotton press	Feb. 5, 1861.
2090	McBurney, Charles	Roxbury, Mass	Utilizing waste vulcanized rubber	Aug. 20, 1861.
	McCall, D., and R. Coddington. (*See* Coddington & McCall.)			
1521	McCarty, James	Reading, Pa	Annealing cut nails	June 11, 1861.
1292	McCausland, John, Jefferson & James	Rondout, N. Y	Steering apparatus	May 14, 1861.
	McCluer, G., and F. A. Redington. (*See* Redington & McCluer.)			
	McClure, H., and H. H. Ballard. (*See* Ballard & McClure.)			
723	McClure, John F	Boston, Mass	Hair brush	Mar. 19, 1861.
1300	McClure, William	Peebles, Pa	Sadiron	May 14, 1861.
1135	McCollum, James	Brownsville, Ala	Subsoil ploughs	April 23, 1861.
248	McComb, J. J	New Orleans, La	Iron ties for cotton bales	Jan. 29, 1861.
	McComber, J., *et al.* (*See* Brown, S. W., assignor.)			
929	McCord, Wm., assignor to self, Charles F. Cox, and Robert Woodward	Sing Sing, N. Y	Fire-arms	April 2, 1861.
2809	McCord, Wm., and Edmund Maher, assrs to Wm. McCord	New York, N. Y	Repeating ordnance, &c	Nov. 26, 1861.

	McCormick, Cyrus H. (*See* Erpelding & Lambert, assignor.)			
2652	McCormick, Cyrus H.	Chicago, Ill.	Cutting apparatus of mowing and reaping machines	Nov. 5, 1861.
2653	McCormick, Cyrus H.	Chicago, Ill.	Metallic finger-beams of reaping and mowing machines	Nov. 5, 1861.
2654	McCormick, Cyrus H.	Chicago, Ill.	Reaping and mowing machines	Nov. 5, 1861.
177	McCormick, J. B., and W. R. Baker	St. Louis, Mo.	Hemp brakes	Jan. 22, 1861.
1231	McCormick, J. J., assignor to self and J. L. Canfield	Paterson, N. J.	Spring-bed bottom	April 30, 1861.
1632	McCormick, John	Madison, Ind.	Boiling apparatus	June 25, 1861.
2676	McCormick, Wm. S., assignor to Cyrus H. McCormick	Chicago, Ill.	Cutting apparatus of reaping and mowing machines	Nov. 5, 1861.
2677	McCormick, Wm. S., assignor to Cyrus H. McCormick	Chicago, Ill.	Cutters for reaping and mowing machines	Nov. 5, 1861.
	McCrea, S. W., *et al.* (*See* Burr, T., assignor.)			
1444	McCrosky, S. P., assignor to self and Wm. D. Nichols	Monroe, Iowa	Preparation to render maize suitable for grinding	May 28, 1861.
	McCrossan, J., and T. J. McArthur. (*See* Juengst, George, assignor.)			
	McCue, Jno. M., *et al.* (*See* Sibert, L., assignor.)			
2840	McDaniel, D., and E. A. Harvey	Wilmington, Del.	Removing acid from the surface of iron	Dec. 3, 1861.
178	McDonald, Hiram	Union Springs, N. Y.	Wood-bending machines	Jan. 22, 1861.
835	McDonald, J. R.	Fayette, Mo.	Hemp breaks	April 2, 1861.
2437	McDougall, S. T.	Brooklyn, N. Y.	Washing machine	Oct. 8, 1861.
	McDowell & Leibrandt. (*See* Smith & Brown, assignors.)			
	McDowell, Thos. C., *et al.* (*See* Wells, Wm., assignor.)			
71	McDuff, Jas., assignor to N. McGraw and W. A. Taylor	Morrisania, N. Y.	Coffins (Design)	June 25, 1861.
811	McEvoy, C. A.	Richmond, Va.	Mode of loading fire-arms	Mar. 26, 1861.
	McFarland, Jas., *et al.* (*See* Sherwin, McFarland & Thieme.)			
	McGraw, N., and W. A. Taylor. (*See* McDuff, Jas., ass'r.)			
1570	McGregor, Frazee B.	Commerce, Mich.	Water elevators	June 18, 1861.
812	McGuffie, Archibald	Rochester, N. Y.	Railroad chairs	Mar. 26, 1861.
2950	McGuffie, Archibald	Rochester, N. Y.	Construction of bridges	Dec. 17, 1861.
1698	McIntire, James	New York, N. Y.	Bomb shells	July 2, 1861.
466	McIntosh, John B.	Girard, Pa.	Machine for loading hay	Feb. 19, 1861.
2529	McIntosh, William	Wilmington, Ill.	Harvesters	Oct. 22, 1861.
2538	McIlwain, George	Philadelphia, Pa.	Cases for water and gas cocks	Oct. 29, 1861.
2998	McKain, William	Conoy Township, Pa.	Mode of preventing destruction of bolting cloths in flouring and grist mills.	Dec. 24, 1861.
549	McKee, Leander	Hagerstown, Md.	Mill for grinding apples	Feb. 26, 1861
2353	McKenzie, Duncan	Brooklyn, N. Y.	Camp cooking apparatus	Sept. 24, 1861.
1522	McKenzie, H	Talladega, Ala	Tanning leather	June 11, 1861.
513	McMinn, Geo. W., assignor to self and R. T. Reiley	Covington, Ky.	Metallic springs	Feb. 19, 1861.
	McMullan, Richard, *et al.* (*See* Hoagland, J. W., assignor.)			
208	McMurtry, John, assignor to J. A. Bostwick	Fayette county, Ky.	Fireplaces	Jan. 22, 1861.
74	McNamara, D. S., assignor to G. M. Selden	Troy, N. Y.	Harvesters (Reissue)	May 7, 1861.
75	McNamara, D. S., assignor to G. M. Selden	Troy, N. Y.	Harvesters (B, division of reissue)	May 7, 1861.
76	McNamara, D. S., assignor to G. M. Selden	Troy, N. Y.	Harvesters (C, division of reissue)	May 7, 1861.
77	McNamara, D. S., assignor to G. M. Selden	Troy, N. Y.	Harvesters (D, division of reissue)	May 7, 1861.
62	McNamee, James	Easton, Pa.	Bread and pastry board	Jan. 1, 1861.
2165	McNamee, James, assignor to James B. Wilson	Easton, Pa.	Sewing pins	Aug. 27, 1861.
814	McNie, Robert	New York, N. Y.	Lithographic press	Mar. 26, 1861.
	McNiece, Wm. (*See* Custer, J. D., assignor.)			
813	McPherson, J. L., and J. S. Harbison	Sacramento, Cal.	Windmills	Mar. 26, 1861.
2438	McQuiston, Samuel	Morris, Ill.	Corn shellers	Oct. 8, 1861.
	McVickar, W. H., *et al.* (*See* Muller, Julius J., assignor.)			
2530	McWayne, Chandler	Sacramento, Cal.	Railroads and cars	Oct. 22, 1861.
1699	Meacham, George A.	New York, N. Y.	Buttons	July 2, 1861.
2042	Meacham, George A.	New York, N. Y.	Buttons	Aug. 13, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2253	Mead, Seth H.	St. Andrew's, N. Y.	Separating gold from earth, &c	Sept. 10, 1861.
2999	Mead, Solomon	New Haven, Conn	Hot-air furnaces	Dec. 24, 1861.
1834	Meader, George	Earlville, Ill	Wrenches	July 16, 1861.
2439	Meilen, George H.	Scott, N. Y.	Filtering stopper	Oct. 8, 1861.
2531	Melling, John	Bolton, Eng.	Machines for making bricks	Oct. 22, 1861.
1373	Menaar, Nicholas A.	Buffalo, N. Y.	Railroad signal lanterns	May 21, 1861.
	Mercer, Andrew & Lloyd, and Milton Day. (*See* Day & Mercer.)			
1445	Merchant, N. R., assignor to self and A. P. Merchant	Guilford, N. Y.	Boring machine	May 28, 1861.
2166	Merrill, A. H., assignor to A. H., R. S., & J. S. Merrill	Boston, Mass.	Implements for handling lamp chimneys	Aug. 27, 1861.
1879	Merrill, A. P.	Ypsilanti, Mich	Grain separators	July 23, 1861.
51	Merrill, Jas. H., assignor to Merrill Patent Fire-arm Manufacturing Company.	Baltimore, Md.	Fire-arms (A, reissue)	Mar. 26, 1861.
52	Merrill, Jas. H., assignor to Merrill Patent Fire-arm Manufacturing Company.	Baltimore, Md.	Fire-arms (B, division of reissue)	Mar. 26, 1861.
53	Merrill, Jas. H., assignor to Merrill Patent Fire-arm Manufacturing Company.	Baltimore, Md.	Fire-arms (C, division of reissue)	Mar. 26, 1861.
54	Merrill, Jas. H., assignor to Merrill Patent Fire-arm Manufacturing Company.	Baltimore, Md.	Fire-arms (D, division of reissue)	Mar. 26, 1861.
1029	Merrill, Jas. H., assignor to Merrill Patent Fire-arms Manufacturing Company.	Baltimore, Md.	Breech-loading fire-arms	April 9, 1861.
1028	Merrill, Jas. H., assignor to Merrill Patent Fire-arms Manufacturing Company.	Baltimore, Md.	Breech-loading fire-arms	April 9, 1861.
1446	Merrill, Jas. H., assignor to the Merrill Patent Fire-arms Manufacturing Company.	Baltimore, Md.	Fire-arms	May 28, 1861.
1447	Merrill, Jas. H., assignor to the Merrill Patent Fire-arms Manufacturing Company.	Baltimore, Md.	Fire-arms	May 28, 1861.
2532	Merrill, James H.	Baltimore, Md.	Breech-loading fire-arms	Oct. 22, 1861.
1702	Merrill, Joshua	Boston, Mass.	Construction of stills	July 2, 1861.
1701	Merrill, Joshua	Boston, Mass.	Manufacture of hydrocarbon oils	July 2, 1861.
1700	Merrill, Joshua	Boston, Mass.	Distillation of hydrocarbon oils	July 2, 1861.
1947	Merrill, Joshua	Boston, Mass.	Casing of stills	July 30, 1861.
2951	Merrill, Joshua	Boston, Mass.	Constructing stills and still-bottoms	Dec. 17, 1861.
985	Merrill, Linus	Janesville, Wis.	Grain separators	April 9, 1861.
	Merrill, M., and T. Holmes. (*See* Rowe, John L.)			
724	Merritt, B., and J. H. Sears	Boston, Mass / Chelsea, Mass.	Brick elevators	Mar. 19, 1861.
109	Mersereau, Jacob, assigner to W. P., A. & J. Abendroth	Port Chester, N. Y.	Cook's stove (Design)	Sept. 17, 1861.
	Messinger, V. A., and others. (*See* Atwood & Lee, ass'rs.)			
1948	Metcalf, Martin	Grand Rapids, Mich	Bee hives	July 30, 1861.
	Mettam, Charles, & Co. (*See* Nowlan, Samuel, assignor.)			
1880	Mettam, Charles	New York, N. Y.	Camp cot	July 23, 1861.
1633	Metzler, Samuel	Naperville, Ill.	Belt coupling	June 25, 1861.
725	Meyer, Christopher	New Brunswick, N. J.	Methods of applying caoutchouc to cloth	Mar. 19, 1861.
726	Meyer, Christopher	New Brunswick, N. J.	India-rubber shoes	Mar. 19, 1861.

1571	Meyer, Christopher	New Brunswick, N. J	Boots and shoes	June 18, 1861.
2533	Meyer, Jacob	Chicago, Ill	Grain separators	Oct. 22, 1861.
92	Michael, Ellis, assignor to A. & J. W. Free	Laporte, Ind	Grain separators	Jan. 8, 1861.
2202	Michael, Frederick	Des Moines, Iowa	Arrangement of apparatus for the manufacture of vinegar by the quick process	Sept. 3, 1861.
550	Mickey, John R	Waterford, Pa	Churn	Feb. 26, 1861.
2454	Middaugh, H. B., and Albert Clark	Mansfield, Pa	Horse-power machine	Sept. 24, 1861.
23	Middleton, John	New York, N. Y	Ice crusher	Jan. 1, 1861.
	Miles, A. O., and R. S. Eddy. (*See* Eddy & Miles.)			
52	Miles, Purches, assignor to self and A. P. Plant	New Haven, Conn	Nut machines	Jan. 1, 1861.
94	Miles, Purches, assignor to Plant's Manufacturing Company.	New Haven, Conn	Cutlery and grinding apparatus	Jan. 8, 1861.
93	Miles, Purches, assignor to Plant's Manufacturing Company.	New Haven, Conn	Meat cutter	Jan. 8, 1861.
249	Millar, Alexander	New York, N. Y	Cork-cutting machines	Jan. 29, 1861.
986	Millar, Alexander	New York, N. Y	Cork-cutting machine	April 9, 1861.
1071	Millar, Alexander	New York, N. Y	Cork machines	April 16, 1861.
	Millar, Alexander, and Henry F. Cox. (*See* Cox & Miller, assignors, &c.)			
2589	Miller, A. H	La Porte, Ind	Apparatus for evaporating sugar	Oct. 29, 1861.
2785	Miller, A. R	Attica, N. Y	Carriage springs	Nov. 26, 1861.
2440	Miller, B. F	New York, N. Y	Bake pan	Oct. 8, 1861.
2254	Miller, Charles P	Philadelphia, Pa	Gas burners	Sept. 10, 1861.
1302	Miller, Daniel	Marietta, Ohio	Cork fastener for bottles	May 14, 1861.
611	Miller, F. J	Buford, Ga	Machinery for making rope	Mar. 5, 1861.
	Miller, H. H., and Jedediah Wilcox. (*See* Mann, Bela A., assignor.)			
1773	Miller, John, jr	Baltimore, Md	Machines for making paper bags and boxes	July 9, 1861.
2255	Miller, John, and William Ketting	Jersey City, N. J	Railroad car ventilator	Sept. 10, 1861.
2841	Miller, Lewis	Canton, Ohio	Harvesting machines	Dec. 3, 1861.
281	Miller, Lewis	Canton, Ohio	Making finger guards for harvesters	Jan. 29, 1861.
2891	Miller, Lewis	Canton, Ohio	Grain and grass harvesters	Dec. 10, 1861.
2952	Miller, Lewis and Jacob	Canton, Ohio	Grain cleaners	Dec. 17, 1861.
760	Miller, Lewis, assignor to C. Aultman & Co		Gearing for threshing machines	Mar. 19, 1861.
2394	Miller, L. H	Baltimore, Md	Camp trunks	Oct. 1, 1861.
1338	Miller, Lewis L	Jersey Shore, Pa	Washing machine	May 14, 1861.
1573	Miller, Nathan	Finley, Ohio	Pumps	June 18, 1861.
1572	Miller, Nathan	Finley, Ohio	Water elevators for cattle	June 18, 1861.
896	Miller, Orlando	Girard, Pa	Bee hives	April 2, 1861.
727	Miller, Samuel	Winchester, Ohio	Harrows	Mar. 19, 1861.
2151	Miller, Tobias H	Lancaster, Pa	Machine for rolling carriage axles	Aug. 27, 1861.
1774	Miller, William	Boston, Mass	Fire-escape	July 9, 1861.
2503	Miller, William, assignor to self and Samuel P. Williams, jr.	New York, N. Y	Cases for photographic cards	Oct. 15, 1861.
2678	Miller, William, assignor to self and J. B. Bridgman	Boston, Mass	Guard attachment for door latches	Nov. 5, 1861.
1301	Miller, William Hartley	Philadelphia, Pa	Water alarm for steam boilers	May 14, 1861.
1703	Miller, William K	Canton, Ohio	Harvesters	July 2, 1861.
1072	Millholland, James	Reading, Pa	Furnaces of steam boilers	April 16, 1861.
2953	Millholland, James	Reading, Pa	Mode of operating Giffard's injector	Dec. 17, 1861.
574	Milliken, W. H. & John, assignors to themselves and D. F. Buckley	Manchester, N. H	Machines for folding paper	Feb. 26, 1861.
	Milliken, W. T. B., *et al.* (*See* Johnson, Frank G., assignor.)			
761	Millochan, Adolphe M., assignor to Henry Leverat	New York, N. Y	Method of extracting oil from fish	Mar. 19, 1861.
1136	Mills, T. S	Iberia, Ohio	Seeding machines	April 23, 1861.
2590	Mills, William	New Athens, Ohio	Apparatus for cleaning feathers	Oct. 29, 1861.
1835	Mills, William T	Kalamazoo, Mich	Sewing machines	July 16, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2203	Minor, George, and Burroughs Beach	Bridgewater, Conn West Meriden, Conn	Washing machines	Sept. 3, 1861.
1426	Minthorn, Daniel	Beverly, Mass.	Valves	May 28, 1861.
2355	Mishler, L.	Mogadore, Ohio	Machines for loading hay	Sept. 24, 1861.
2892	Miskimen, Hezekiah W	Kingston Mines, Ill.	Automatic gate	Dec. 10, 1861.
669	Mitchell, George A.	Turner, Maine	Tip for boots and shoes	Mar. 12, 1861.
1634	Mitchell, George A.	Turner, Maine	Boot heels	June 25, 1861.
1635	Mitchell, Porter	Greenfield, Mass.	Heating apparatus	June 25, 1861.
467	Mitchell, Thomas	Lansingburg, N. Y.	Machine for boring brush blocks	Feb. 19, 1861.
	Mitchell, Vance & Co. (*See* Vance, Samuel B. H., assignor.)			
129	Mix, E. M. & J. E., assignors to Wait T. Huntington and Hervey Platts.	Ithaca, N. Y.	Calendar clocks (Reissue.)	Oct. 29, 1861.
2916	Mix, E. M. & J. E., assignors to selves and John Gauntlett	Ithaca, N. Y.	Padlocks	Dec. 10, 1861.
551	Mix, G. J	Wallingford, Conn	Manufacture of spoons	Feb. 26, 1861.
	Moen, P. L., *et al.* (*See* Washburn, I., assignor.)			
	Moen & Washburn. (*See* Frost, W. E., assignor.)			
2954	Moffitt, G. W.	Washington, Pa.	Car coupling	Dec. 17, 1861.
17	Moffitt, J. W.	Harrisburg, Pa.	Manufacture of porcelain teeth (Reissue)	Jan. 8, 1861.
2257	Moller, William	New York, N. Y.	Apparatus for dissolving crude sugar	Sept. 10, 1861.
2256	Moller, William	New York, N. Y.	Sugar cutting machine	Sept. 10, 1861.
289	Montague, Charles	Hartford, Conn.	Printing press	Dec. 10, 1861.
468	Monson, C., and S. Moore	New Haven, Conn.	Gas burners	Feb. 19, 1861.
2356	Montgomery, J. A.	Williamsport, Pa.	Canteen	Sept. 24, 1861.
2842	Mooers, Henry	Toledo, Ohio	Mode of heating moulds	Dec. 3, 1861.
1775	Moon, J. W. D. F.	Coventry, N. Y.	Thills to vehicles	July 9, 1861.
	Mooney, David & E. A., and Samuel Moore. (*See* Moore & Mooney.)			
2091	Moore, Benjamin B.	Detroit, Mich.	Hydrants	Aug. 20, 1861.
2894	Moore, David A.	Syracuse, N. Y.	Lamps	Dec. 10, 1861.
469	Moore, Daniel	Brooklyn, N. Y.	Fire-arms	Feb. 19, 1861.
2843	Moore, Daniel	Brooklyn, Ohio.	Breech-loading fire-arms	Dec. 3, 1861.
2844	Moore, E. A., and Samuel & David Mooney	Finley, Ohio	Cattle pumps	Dec. 3, 1861.
24	Moore, Gilbert H	Rochester, N. Y.	Ploughs	Jan. 1, 1861.
2679	Moore, George R., assignor to Alfred B. Ely	Westford, Mass.	Steering apparatus	Nov. 5, 1861.
815	Moore, Hiram	Fond du Lac, Wis.	Seed drills	Mar. 26, 1861.
	Moore, John M. (*See* Wilson, J. B., assignor.)			
93	Moore, Lewis	Ypsilanti, Mich.	Seeding machines (Reissue)	June 18, 1861.
	Moore, S., and C. Monson. (*See* Monson & Moore.)			
2204	Moorhead, J. B. & J. A., and G. G. Pool	Bellefontaine, Ohio	Cultivators	Sept. 3, 1861.
250	Morehouse, Charles L.	Jackson, Tenn.	Composition for lubricating journals, axles, &c.	Jan. 29, 1861.
	Morehouse, M. S., and N. D. Hartley. (*See* Hartley & Morehouse.)			
2745	Morehouse, William	Buffalo, N. Y.	Lamps	Nov. 19, 1861.
2746	Morehouse, William	Buffalo, N. Y.	Sash supporter	Nov. 19, 1861.
	Morgan, D. S., *et al.* (See Palmer & Williams, assignors.)			

179	Morgan, Dayton S.	Brockport, N. Y.	Harvesters	Jan.	22, 1861.
	Morgan, D. S., *et al.* (*See* Seymour, Wm. H., assignor.)				
2441	Morgan, Merritt P.	Scott, N. Y	Straw carriers of threshing machines	Oct.	8, 1861.
1704	Morgan, Orson	Henry, Ill.	Horse collar block	July	2, 1861.
1776	Morley, F. A.	Sodus Point, N. Y.	Steering apparatus	July	9, 1861.
1777	Morley, F. A.	Sodus Point, N. Y.	Potato diggers	July	9, 1861.
120	Morohan, Bernard	Brooklyn, N. Y.	Stopping and starting railroad cars	Jan.	15, 1861.
2895	Morrill, Charles	New York, N. Y.	Bit braces	Dec.	10, 1861.
	Morrill, N. F., and W. Wadleigh. (*See* Wadleigh & Morrill.)				
180	Morris, David A.	Pittsburg, Pa.	Manufacture of sheet iron	Jan.	22, 1861.
2305	Morris, John H.	Niles, Mich.	Machine for holding bag while being filled	Sept.	3, 1861.
	Morris, J. J, and D. D. Hardy. (*See* Hardy & Morris.)				
392	Morris, William S.	New York, N. Y	Fish hooks	Feb.	12, 1861.
64	Morrisett, James J., assignor to Jacob L. Dodge	New York, N. Y.	Hats (Design)	May	28, 1861.
121	Morrisett, James J., assignor to Jacob L. Dodge	New York, N. Y.	Hats (Design)	Oct	29, 1861.
2015	Morrison, E. R., assignor to the "Hanlon Brothers"	South Bergen, N. J.	Locomotive apparatus	Aug.	6, 1861.
2395	Morrison, Henry	Paterson, N. J.	Rest for engine lathes	Oct.	1, 1861.
2486	Morrison, John R.	East Springfield, Ohio	Washing machine	Oct.	15, 1861.
2485	Morrison, John R.	East Springfield, Ohio	Apparatus for cleaning and renovating feathers	Oct.	15, 1861.
2591	Morrison, Robert	Newcastle, England	Steam hammers	Oct.	29, 1861.
1575	Morrison, Samuel G.	Williamsport, Pa.	Ventilating millstones	June	18, 1861.
1574	Morrison, Samuel G.	Williamsport, Pa.	Mode of cleaning and feeding grain to burr millstones	June	18, 1861.
2592	Morrison, S. G.	Williamsport, Pa.	Window sash supporter	Oct.	29, 1861.
3000	Morrison, S. G.	Williamsport, Pa.	Canteen	Dec.	24, 1861.
1073	Morrison, William	Chadd's Ford, Pa.	Cultivator teeth	April	16, 1861.
1251	Morse, Andrew, assignor to self and Ira Winn	Portland, Maine	Extension platforms	May	7, 1861.
2152	Morse, Andrew	Portland, Maine	Machinery for ringing fog bells	Aug.	27, 1861.
	Morse, Albert W. (*See* Maydole & Morse, assignors.)				
1636	Morse, Henry U. & H. A.	Canton, Mass	Tobacco cutters	June	25, 1861.
1576	Mosher, Eli	Flint, Mich	Water elevators	June	18, 1861.
1137	Mosher, H. W.	Warren, Ill	Coffee pots	April	23, 1861.
	Moss, C. B., *et al.* (*See* Sheehan, Thomas, assignor.)				
1881	Mott, Samuel M	Wellsville, N. Y	Manufacture of lubricating oils	July	23, 1861.
642	Moulson, John, assignor to A. B. Elliott	Philadelphia, Pa.	Sewing machines	Mar.	5, 1861.
2593	Moulton, Stephen	Bradford, England	Manufacture of springs from rubber and steel. (Patented in England Jan. 17, 1861.)	Oct.	29, 1861.
1248	Mowry, A. L.	Cincinnati, Ohio	Annealing car wheels	May	7, 1861.
1303	Mowry, Samuel	Womelsdorf, Pa.	Horse rakes	May	14, 1861.
2258	Mudge, S. W.	Rome, N. Y.	Churn	Sept.	10, 1861.
2655	Mudge, S. W.	Rome, N. Y.	Churn	Nov.	5, 1861.
1836	Muller, Adrien	Paris, France	Furnace for treating zinc and other ores	July	16, 1861.
514	Muller, H., and C. Majer, assignors to themselves and Louis Beauche.	New York, N. Y.	Cigar machines	Feb.	19, 1861.
2786	Muller, John M.	Richmondville, N. Y	Process of tanning	Nov.	26, 1861.
2167	Muller, Julius J., assignor to self, W. H. McVickar, H. E. Roeder, and P. Weiler.	New York, N. Y.	Ore separator	Aug.	27, 1861.
2787	Mulvany, John	New York, N. Y.	Lamps	Nov.	26, 1861.
2206	Mulvey, Jos., and C. Ohlemacher	Aurora, Ill	Railroad car brakes	Sept.	3, 1861.
2031	Mumma, David	Mount Carroll, Ill	Treating skins without removing the hair or fur	Dec.	24, 1861.
1427	Mumford, Josiah, and J. W. Wilson	Clarksburgh, Ohio	Cultivators	May	28, 1861.
2580	Munger, George, assignor to self, L. Candee, and J. E. P. Dean.	New Haven, Conn.	Chalk erasers	Nov.	5, 1861.
62	Munger, L. F	Rochester, N. Y.	Locks (Reissue.)	April	2, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
251	Munson, Edmund	Utica, N. Y.	Machines for facing and polishing millstones	Jan. 29, 1861.
181	Munson, George C	New York, N. Y.	Tucking gauges	Jan. 22, 1861.
816	Murdock, John	New York, N. Y.	Bank notes	Mar. 26, 1861.
	Murdock, J. H. (See Howe, Franklin L., assignor.)			
320	Murkland, William	Lowell, Mass	Looms	Feb. 5, 1861.
182	Murphy, J. Y. D	Half Moon, Pa	Corn planters	Jan. 22, 1861.
1195	Murphy, John W	Philadelphia, Pa	Mode of adjustment of truss-frames of bridges	April 30, 1861.
1333	Murray, Geo., assignor to self and Sarah G. Hibbert	Cleveland, Ohio	Water elevators	May 14, 1861.
	Murray, John B. (See Mara, L. P., assignor.)			
470	Murray, Peter	Detroit, Mich	Steam-engines	Feb. 19, 1861.
	Murray, Wm. S. (See Jenks, L. M., assignor.)			
1196	Musselman, Darius	Lucas county, Iowa	Steam and hot air engine	April 30, 1861.
252	Myer, A. J	Buffalo, N. Y.	System of signalizing	Jan. 29, 1861.
123	Myer, Henry B	Cleveland, Ohio	Converting railroad car-seats into beds or lounges..(Reissue)	Oct. 8, 1861.
2534	Myers, John, and George Elbreg	Cincinnati, Ohio	Street sewers	Oct. 22, 1861.
1164	Myers, Charles K., assignor to self and John Cohenour	Pekin, Ill	Corn planters	April 23, 1861.
1637	Myers, H. A. & L. B	Elmore, Ohio	Grain drills	June 25, 1861.
987	Napier, Henry	Brooklyn, N. Y	Apparatus for manufacturing turpentine and rosin	April 9, 1861.
	Nash, J. L. (See Ballou, Francis D., assignor.)			
424	Nash, Jefferson, assignor to self and Alonzo K. Cutts	Janesville, Wis	Grain separators	Feb. 12, 1861.
110	Nash, Jefferson, assignor to self and Alonzo K. Cutts	Janesville, Wis	Grain separator (Reissue.)	July 23, 1861.
	Nash, Thomas, *et al.* (See Hausz, D. F., assignor.)			
3002	Naylor, Peter	New York, N. Y	Casting balls for rifles	Dec. 24, 1861.
	Needham, Bibb & Dorsey. (See Bibb, Needham & Dorsey.)			
	Neefus, Peter W., and Henry R. Conklin. (See Short, Joseph, assignor.)			
2335	Neff, William	Centre Hall, Pa	Harvesting machines	Oct. 22, 1861.
	Negbauer, Julius, *et al.* (See Hainemann, Sampson, assignor. Design.)			
183	Neill, Arthur	Boston, Mass	Moulds for shaping India-rubber pencil heads	Jan. 22, 1861.
	Nelson & Bayley. (See Bayley & Nelson.)			
	Nelson, C. A., *et al.* (See Smoote, Wm. H., assignor.)			
82	Nelson, Henry G	Mexico, N. Y.	Water-wheels (Reissue)	May 21, 1861.
1374	Nelson, Mortimer	New York, N. Y	Balloons	May 21, 1861.
1577	Nelson, Mortimer	New York, N. Y	Mode of selecting balls for games of chance	June 18, 1861.
50	Newmann, Cæsar, assignor to Prince, assignor to Newmann	New York, N. Y	Machine for making hooped skirts (Reissue)	Feb. 26, 1861.
1197	Newmann, John	New York, N. Y	Faucets	April 30, 1861.
1334	Newman, Joseph, assignor to Geo. W. Robertson	Philadelphia, Pa	Hydrants	May 14, 1861.
1071	Nevill, George W	Bath, Ill	Seed drills	April 16, 1861.
930	Nevison, James, assignor to self and A. D. Wood	Morgan, Ohio	Stave machines	April 2, 1861.
25	Newburry, Wm	Clarksville, Mo	Straw-cutters	Jan. 1, 1861.
2357	Newell, John W	New Brunswick, N. J	Manufacture of elastic cloth	Sept. 24, 1861.
253	Newell, Nathan E	Northbridge, Mass	Centring bars of iron	Jan. 29, 1861.
	New England Butt Company. (See Winchester, G. K., assignor.)			

1075	Newkumet, Adam	Philadelphia, Pa	Drain tiles	April	16, 1861.
2043	Newman, Carlton	Pittsburg, Pa	Lamps	Aug.	13, 1861.
115	Ney, Elemir J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern (Design)	Oct.	22, 1861.
2	Ney, Elemir J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet do	Feb.	5, 1861.
3	Ney, Elemir J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet do	Feb.	5, 1861.
116	Ney, Elemir J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Oct.	22, 1861.
117	Ney, Elemir J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Oct.	22, 1861.
28	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet do	Mar.	19, 1861.
29	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet do	Mar.	19, 1861.
30	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet do	Mar.	19, 1861.
78	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
80	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
81	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
82	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
83	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
84	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
85	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
86	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
87	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	July	16, 1861.
94	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
95	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
96	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
97	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
98	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
99	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
100	Ney, E. J., assignor to Lowell Manufacturing Co	Lowell, Mass	Carpet pattern do	Aug.	13, 1861.
1705	Nichols, Francis	New London, Conn	Soda water apparatus	July	2, 1861.
1375	Nichols, William D	Davenport, Iowa	Device for milking cows	May	21, 1861.
	Nichols, William D., *et al.* (*See* McCrosky, S. P., ass'r.)				
1523	Nichols, W. H., and F. D. Strong	East Hampton, Conn	Nail and screw heads	June	11, 1861.
1882	Nicholson, William T.	Providence, R. I	Egg-beater	July	23, 1861.
2153	Nickerson, D. P.	Cleveland, Ohio	Cheese press and hook	Aug.	27, 1861.
44	Nishwitz, Frederick	Brooklyn, N. Y	Harvesters (Reissue)	Mar.	5, 1861.
26	Nittinger, August jr	Philadelphia, Pa	Sausage stuffer	Jan.	1, 1861.
321	Nivelle, Francis	Paris, France	Sewing machines	Feb.	5, 1861.
	Noble & Abbott. (*See* Gibbs, Samuel W., assignor.)				
988	Noblit, John	Philadelphia, Pa	Hair-cloth looms	April	9, 1861.
2207	Noblit, Henry	Philadelphia, Pa	Metal fences	Sept.	3, 1861.
	Noone, J., and Wm. Earl, jr. (*See* Davis, Jos., assignor.)				
1198	Norris, George	New York, N. Y	Filters	April	30, 1861.
	Norris & King. (*See* King & Norris.)				
	North, Chase & North. (*See* Smith & Brown, assignors.)				
728	Northrop, Rowell	New Milford, Conn	Machines for felting hat bodies	Mar.	19, 1861.
	Northrup, Chauncy B., and William E. Vincent. (*See* Vincent & Northrup.)				
1778	Norton, Benjamin F.	Manchester, N. H	Sewing machines	July	9, 1861.
	Norton & Philips. (*See* Turner, Wm., assignor.)				
	Norton Furnace Company. (*See* Magee, John, assignor.)				
	Novelty Rubber Company. (*See* Hingher, Constantine, ass'r.)				
1599	Nowlan, Samuel, assignor to Charles Mettam & Co	New York, N. Y	Galvanic soles	June	18, 1861.
1918	Nowlan, Samuel	New York, N. Y	Washing machines	July	30, 1861.
729	Noyes, Josiah H.	Abington, Mass	Last for boots and shoes	Mar.	19, 1861.
1304	Nugent, William	Chicopee, Mass	Picker-motion	May	14, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
730	Nyce, Benjamin M	Kingston, Ind	Buildings for preserving fruits	Mar. 19, 1861.
847	Nye, John Wight, assignor to self and George W. Ball	Fairfield, Vt	Dumping wagons	Mar. 26, 1861.
121	Nystrom, John W	St. Petersburg, Russia	Apparatus for docking ships, &c	Jan. 15, 1861.
2442	Nystrom, John W	Philadelphia, Pa	Furnaces for the manufacture of iron	Oct. 8, 1861.
2815	Oakeley, George W	Reading, Pa	Heaters	Dec. 3, 1861.
2387	Oakley, John M	New York, N. Y	Washing machines	Sept. 17, 1861.
	O'Bryan, John. (*See* Heyle; John Adam, assignor.)			
2092	O'Bryan, Charles, and Henry Kreps	Minerva, Ohio	Ploughs	Aug. 20, 1861.
2443	Odell, A., and W. A. Burrows	New York, N. Y	Lamps	Oct. 8, 1861.
3055	O'Doris, St. John	Philadelphia, Pa	Fertilizers	Dec. 24, 1861.
1428	Ogle, J. W	Concord, Ill	Window shade	May 28, 1861.
	Ohlemacher, C., and Joseph Mulvey. (*See* Mulvey & Ohlemacher.)			
	Old Colony Iron Company. (*See* Robinson, Enoch, ass'r.)			
422	Oldfield, Edward G	Bordentown, N. J	Machines for making brick, tile, &c	Jan. 15, 1861.
2093	Olds, A. M	Glenmont, Wis	Bag holder	Aug. 20, 1861.
2208	Olds, Alonzo W	Green Oak, Mich	Rotary harrows	Sept. 3, 1861.
3003	Olds, Alonzo W			
	Olds, E. F. and A. W., and J. Brainerd. (*See* Brainerd & Olds.)			
552	Oliver, F. E	New York, N. Y	Combined paper cutter and rule	Feb. 26, 1861.
2747	Olmsted, L. H	Binghamton, N. Y	Oilers	Nov. 19, 1861.
818	Olmsted, S. J., assignor to John Ellis	Binghamton, N. Y	Gate hinge	Mar. 26, 1861.
2788	Orendorff, O. H. P	Bloomington, Ill	Portable field fences	Nov. 26, 1861.
1910	Ornsby, H., and E. R. Sumner, assignors to selves and Jas. A. Carpenter.	Beloit, Wis	Cobb and feed mills	July 23, 1861.
2154	Orput, J. M	Malta, Ill	Harvesting machines	Aug. 27, 1861.
989	Orr, Samuel	East Springfield, Ohio	Apparatus for dressing feathers	April 9, 1861.
817	Osborn, Asahel	Morris, N. Y	Quilting frame	Mar. 26, 1861.
	Osborn & Vincent. (*See* Mann, Robert J., assignor.)			
	Osborne, David M. (*See* Jewell, Ira, assignor.)			
	Osborne, David M., *et al.* (*See* Kirby, Wm. A., assignor.)			
	Osborne, David M., *et al.* (*See* Kirby, Wm. A., assignor.)			
1664	Osborne, J. W., assignor to Samuel Thompson Hooper	Melbourne, Australia	(Reissue.) Photolithography	June 25, 1861.
2168	Osborne, John W., assignor to Samuel T. Hooper	Melbourne, Australia	Photolithographic transfers	Aug. 27, 1861.
123	Osgood, J. H., jr, and E. B. Shaw	Boston, Mass	Railroad car coupling	Jan. 15, 1861.
	Osgood, Judson R. *et al.* (*See* Coppage, Fran C., assignor.)			
147	Osgood, Robert T., assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Grain and grass harvesters (Reissue.)	Dec. 24, 1861.
148	Osgood, Robert T., assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Grain and grass harvesters (Division B of reissue.)	Dec. 24, 1861.
149	Osgood, Robert T., assignor to Cyrenus Wheeler, jr	Poplar Ridge, N. Y	Grain and grass harvesters (Division C of reissue.)	Dec. 24, 1861.
124	Otis, E. G	Yonkers, N. Y	Hoisting apparatus	Jan. 15, 1861.
2396	Overton, Alfred N	Knoxville, Iowa	Composition to be applied to grain to prevent smut	Oct. 1, 1861.
1305	Oviatt, S. E	Richfield, Ohio	Threshing machines	May 14, 1861.
114	Oviatt, S. E	Richfield, Ohio	Threshing machines (Reissue.)	Aug. 13, 1861.
393	Owen, Alfred	Buffalo, N. Y	Nail machine	Feb. 12, 1861.

	Owens, James E., *et al.* (*See* Johnson, Leonard J., assignor.)				
2810	Owen, I. D., assignor to self, E. L. Owen, and G. W. Barnett.	Carlinville, Ill.	Post-hole excavators	Nov.	26, 1861.
1705	Paddock, H. L.	Pontiac, Mich.	Felling guides for sewing machines	July	2, 1861.
2816	Paddock, Oscar	Watertown, N. Y.	Ice-cream freezers	Dec.	3, 1861.
897	Page, Charles G., assignor to George C. Roberts	Washington, D. C.	Refrigerator	April	2, 1861.
2656	Page, William	New York, N. Y.	Rifled projectile for ordnance, &c.	Nov.	5, 1861.
	Page, W. M., and Brown & Taft. (*See* Taft, F. F., assignor.)				
392	Paige, Benjamin O.	Lowell, Mass	Stop motion for railway drawing head	Feb.	12, 1861.
	Palmer, Aaron, *et al.* (*See* Seymour, Wm. H., assignor.)				
	Palmer, Alonzo, and E. Davis. (*See* Davis & Palmer.)				
4	Palmer, A., and S. G. Williams, assignors, by *mesne* assignments, to D. S. Morgan, W. H. Seymour, S. G. Williams, and Aaron Palmer.	Brockport, N. Y.	Harvesters (Reissue.)	Jan.	1, 1861.
5	Palmer, A., and S. G. Williams, assignors, by *mesne* assignments, to D. S. Morgan, W. H. Seymour, S. G. Williams, and Aaron Palmer.	Brockport, N. Y.	Harvesters (Division of reissue.)	Jan.	1, 1861.
42	Palmer, Caleb W.	Troy, N. Y.	Oven of cooking stoves (Design.)	May	7, 1861.
120	Palmer, Caleb W.	Troy, N. Y.	Cooks' stoves	Oct.	29, 1861.
731	Palmer, John S.	Providence, R. I.	Constructing bracelets, &c	Mar.	19, 1861.
1638	Palmer, Mark S.	New Bedford, Mass.	Machine for filling and folding medical powder papers	June	25, 1861.
1883	Palmer, William	New York, N. Y.	Breech-loading fire-arms	July	23, 1861.
82	Pardee, David	Carlyle, Ill.	Seeding machines	Jan.	8, 1861.
2594	Pardee, Peter	Washington, D. C.	Ship building	Oct.	29, 1861.
1429	Park, S. A. and J. A. Staats	Somerville, N. J.	Machine for cooling and drying flour	May	28, 1861.
2595	Parker, Edmund	Meriden, Conn	Coffee mills	Oct.	29, 1861.
	Parker, J. and E. (*See* Range, John, assignor.)				
1524	Parker, J. S	West Willington, Conn	Machines for turning spools	June	11, 1861.
1779	Parker, Lucius	Manchester Station, Conn	Railroad car brake	July	9, 1861.
471	Parker, Leonard M.	Shirley Village, Mass.	Fruit gatherer	Feb.	19, 1861.
2209	Parker, Robert	North Cohocton, N. Y.	Churn	Sept.	3, 1861.
	Parker & Perkins. (*See* Ames, Nathan, assignor.)				
643	Parkhurst, Orson, assignor to H. D. Fuller and R. Safely	Cohoes, N. Y.	Knitting machines	Mar.	5, 1861.
2657	Parkhurst, Parmenus P.	Milford, Mass.	Washing machine	Nov.	5, 1861.
32	Parkhurst, Stephen R.	West Bloomfield, N. J.	Machines for ginning cotton and burring wool (Reissue)	Feb.	12, 1861.
1376	Parkhurst, Stephen R.	New York, N. Y.	Carding machine	May	21, 1861.
898	Parks, Alfred E.	Brooklyn, N. Y.	Electro-magnetic telegraphing	April	2, 1861.
1884	Parks, Edwin	Winchendon, Mass.	Faucets	July	23, 1861.
2694	Parks, Nathaniel	Rome, N. Y.	Telegraphing	Aug.	20, 1861.
	Parks, S., and S. Sweeney. (*See* Sweeney & Parks.)				
899	Parlett, John A., and Jeremiah Thompson	Elmira, N. Y.	Ploughs	April	2, 1861.
3004	Parmele, Simon J.	Killingworth, Conn	Corn-shellers	Dec.	24, 1861.
1639	Parr, George	Buffalo, N. Y.	Camp chest	June	25, 1861.
1707	Parrish, Milo M.	Pleasantville, N. Y.	Machines for cutting stone	July	2, 1861.
2096	Parrott, Robert P.	Cold Spring, N. Y.	Projectiles for rifled ordnance	Aug.	20, 1861.
2095	Parrott, Robert P.	Cold Spring, N. Y.	Projectiles for rifled ordnance	Aug.	20, 1861.
2397	Parrott, Robert P.	Cold Spring, N. Y.	Manufacture of ordnance	Oct.	1, 1861.
2658	Parrott, Robert P.	Cold Spring, N. Y.	Applying fuses to shells	Nov.	5, 1861.
2896	Pascal, C. L.	Philadelphia, Pa.	Military hats	Dec.	10, 1861.
1919	Partridge, John A.	New York, N. Y.	Spinning machinery	July	30, 1861.
	Parvin, J. B., and Jacob Early. (*See* Early & Parvin.)				
1138	Paterson, John	Indianapolis, Ind.	Cheese presses	April	23, 1861.
2097	Paton, Robert.	New York, N. Y.	School seat	Aug.	20, 1861.
612	Patrullo, E. J. Y.	Merida, Yucatan, Mexico	Machines for dressing the leaves of the agave plant	Mar.	5, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1139	Patrullo, E. J. Y.	Merida, Yucatan, Mexico	Machines for dressing the leaves of *Agave Americana*	April 23, 1861.
818	Patterson, James H.	Schaghticoke, N. Y.	Drying pasteboard	Mar. 26, 1861.
2444	Patterson, Stephen J.	Bridgeport, Conn.	Apparatus for tanning	Oct. 8, 1861.
1307	Patterson, Thomas.	Rush, Ill.	Ploughs	May 14, 1861.
1708	Patton, William	Towanda, Pa.	Shutter and door fastener	July 2, 1861.
2098	Patton, William P.	Harrisburg, Pa.	Lamps	Aug. 20, 1861.
2155	Paul, Almarin B.	Nevada, Cal.	Amalgamator	Aug. 27, 1861.
3005	Payne, Frederick C.	New York, N. Y.	Folding bedstead	Dec. 24, 1861.
	Payne, Morgan, and Wm. F. Armstrong. (*See* Armstrong & Payne.			
2789	Paxson, Charles E.	Salem, Ohio	Corn ploughs	Nov. 26, 1861.
	Peabody, Alfred. (*See* Hawkins, L. D., assignor.)			
613	Peabody, Francis	Salem, Mass.	Looms	Mar. 5, 1861.
	Peabody, H. O., and J. W. Pearson. (*See* Pearson & Peabody.)			
	Pearson, John. (*See* Gibbs, John B., assignor.)			
2044	Pearson, John, jr.	Newburyport, Mass.	Stoves	Aug. 13, 1861.
53	Pearson, J. W., and H. O. Peabody, assignors to themselves and D. E. Hayward.	Winchester, Mass.	Skating boot	Jan. 1, 1861.
2156	Pearson, Joseph W.	Winchester, Mass.	Pen-holder	Aug. 27, 1861.
2790	Pease, Buel D.	Madison, Pa.	Butter-worker	Nov. 26, 1861.
688	Pease, Edwin R., assignor to Richard P. Pease	Poughkeepsie, N. Y.	Mowing machines	Mar. 12, 1861.
83	Pease, James C.	Sycamore, Ohio.	Field-rollers	Jan. 8, 1861.
1249	Peaslee, John S	Providence, R. I.	Washing machines	May 7, 1861.
931	Peck, Horton B., assignor to Lyman T. Snedaker	Wolcott, N. Y.	Method of arranging fly-wheels	April 2, 1861.
1640	Peck, R. H., and E. M. Gifford	Wolcott, Vt.	Tub and pail machine	June 25, 1861.
2811	Peck, Royal H., assignor to self and E. M. Gifford	Wolcott, Vt.	Churn	Nov. 26, 1861.
	Peck, Thomas B., and John B. (*See* Woodruff, Jacob D., assignor.)			
	Peckover, Jos., and Federal C. Adams. (*See* Adams & Peckover.)			
2157	Peirce, Charles M., jr.	New Bedford, Mass	Moulds for earthen or cement pipes	Aug. 27, 1861.
2358	Pell, Ogden P., assignor to self and Alfred M. Tredwell	Flushing, N. Y.	Lounge and camp stool combined	Sept. 24, 1861.
84	Penn, Worden P.	Belleville, Ill.	Seeding machines	Jan. 8, 1861.
125	Penn, Worden P.	Belleville, Ill.	Seeding ploughs	Jan. 15, 1861.
1578	Penn, Worden P.	Belleville, Ill.	Threshing machines	June 18, 1861.
2259	Penn, Worden P.	Belleville, Ill.	Harvesters	Sept. 10, 1861.
1920	Penn, W. P.	Belleville, Ill.	Seeding ploughs	July 30, 1861.
990	Pennie, Henry	Brooklyn, N. Y.	Roller skates	April 9, 1861.
92	Perego, Ira, jr.	New York, N. Y.	Shirt bosoms (Reissue.)	June 11, 1861.
990	Perkins, Albert M.	Springfield, Mass.	Pumps	April 2, 1861.
991	Perkins, Charles H.	Providence, R. I.	Toe calkins for horseshoes	April 9, 1861.
1641	Perkins, Charles H.	Providence, R. I.	Machine for making horseshoes	June 25, 1861.
614	Perkins, John M.	Cleveland, Ohio	Water elevators	Mar. 5, 1861.
670	Perkins, P. C.	Waterford, N. Y.	Punching and shearing machine	Mar. 12, 1861.
	Perkins, Parker. (*See* Ames, Nathan, assignor.)			

615	Perley, Charles	New York, N Y	Ships' capstans	Mar. 5, 1861.
83	Perley, Charles	New York, N. Y	Direct and counter motion winch (Reissue.)	May 21, 1861.
	Perrigo, William, and O. E. Holmes. (See Holmes, Ezra Sprague, assignor.)			
2121	Perry, Edwin H., assignor to Sackett, Davis & Co.	Providence, R. I	Machine for making split rings	Aug. 20, 1861.
1525	Perry, F. A	St. Louis, Mo	Ornamented fabric or manufacture for window shades	June 11, 1861.
2002	Perry, William H	St. Louis, Mo	Manufacture of iron	Aug. 6, 1861.
992	Peteler, Alois	New Britain, N. Y	Apparatus for disinfecting foul air in vessels	April 9, 1861.
	Peterson & Stuart, (See Horton & Martino, assignors.)			
	Peterson & Stuart. (See Horton & Martino, assignors.)			
	Peterson & Stuart. (See Horton & Martino, assignors.)			
1837	Pettengill, John, jr.	Jackson, N. H	Car brakes	July 16, 1861.
2536	Pettes, Moses M.	West Concord, Vt	Boots and shoes	Oct. 22, 1861.
322	Peyton, John B	Raymond, Miss	Flues for cotton gins	Feb. 5, 1861.
2596	Pfeiffer, Jacob	Niagara, N. Y	Railroad signal lights	Oct. 29, 1861.
2537	Pfund, Anthony	New York, N. Y	Shells for ordnance	Oct. 22, 1861.
	Phelan & Collender. (See Froelich, Ch., assignor.)			
1448	Phelps, Geo. M., assignor to American Telegraph Company.	Williamsburg, N. Y	Telegraphic apparatus	May 28, 1861.
	Philips & Norton. (See Turner, William, assignor.)			
	Phillips, A. S., and D. A. Haviland. (See Haviland & Phillips.)			
	Phillips, Geo. A., and Thos. F. Wells. (See Seely, Edgar D., assignor.)			
689	Phillips, George B., assignor to J. S. Littell	Newark, N. J	Wagon wrench	Mar. 12, 1861.
1449	Phillips, George B, assignor to Jno. S. Littell	Newark, N. J	Wrenches	May 28, 1861.
2748	Phillips, Henry J	New York, N. Y	Convertible overcoat and tent	Nov. 19, 1861.
	Phillips & Ingraham. (See Vedder, N. S., assignor.)			
1526	Phillips, J. H	Waverly, Mo	Hemp breaks	June 11, 1861.
819	Phillips, Thomas	Ann Arbor, Mich	Arrangement of carriage spring	Mar. 26, 1861.
993	Phillips, Thomas	Ann Arbor, Mich	Handle for hammers, &c.	April 9, 1861.
	Phoebus, F., and H. T. Antilony.			
	Pierce, Charles S. (See Short, Levi, assignor.)			
	Pierce, Samuel B., and Wm. H. H. Burnham. (See Burnham & Pierce.)			
136	Pierce, Samuel	Troy, N. Y	Cooking stoves (Reissue.)	Dec. 3, 1861.
137	Pierce, Samuel	Troy, N. Y	Cooking stoves (Division of reissue.)	Dec. 3, 1861.
2045	Pierpont, William	Salem, N. J	Thresher and cleaner of grain	Aug. 13, 1861.
3306	Pierpont, William	Salem, N. J	Straw carriers and grain separators for threshing machines	Dec. 24, 1861.
395	Pimmor, Ferdinand	Grand Junction, Tenn	Ditching ploughs	Feb. 12, 1861.
1262	Pine, James, assignor to self and J. J. Viele	Troy, N. Y	Rakes for harvesters	May 7, 1861.
1263	Pine, James, assignor to self and J. J. Viele	Troy, N. Y	Harvesters	May 7, 1861.
2553	Pine, James, assignor to self and J. J. Viele	Troy, N. Y	Harvesters	Oct. 22, 1861.
732	Piper, Enoch	Camden, Maine	Method of preserving fish	Mar. 19, 1861.
2538	Piper, John L	Altoona, Pa	Bearing block for bridge trusses	Oct. 22, 1861.
1140	Pitel, John C	West Meriden, Conn	Clock escapement	April 23, 1861.
1485	Pitt, William	Ithaca, N. Y	Lamps	July 23, 1861.
1482	Pittman, Decatur	Fort Madison, Iowa	Animal traps	June 4, 1861.
80	Pitts, Jno. A., deceased, to Jas. Brayley and Mary Pitts, administrators of.	Buffalo, N. Y	Horse powers (Reissue)	May 21, 1861.
	Pitts, Wesley, and P. G. Walker. (See Deming & Walker, assignors.)			
	Plant, A. P., *et al.* (See Miles, Purches, assignor.)			
	Plants Manufacturing Co. (See Miles, Purches, assignor.)			
	Plants Manufacturing Co. (See Miles, Purches, assignor.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2398	Platt, A. H., and W. S. Rosecrans	Cincinnati, Ohio	Lamps	Oct. 1, 1861.
2399	Platt, A. H., and W. S. Rosecrans	Cincinnati, Ohio	Scale and weighing apparatus	Oct. 1, 1861.
	Platts, Hervey, and Wait T. Huntington. (*See* Mix, E. M. & J. E., assignors.)			
1483	Plumer, John C	Portland, Me.	Boots and shoes	June 4, 1861.
27	Plumpier, John T	Plainfield, Conn	Machinery for drawing and twisting wool	Jan. 1, 1861.
733	Poidmann, Daniel	Baltimore, Md	Railroad safety brake	Mar. 19, 1861.
2897	Polino, Alfred	Paris, France	Camp bedstead.....(Patented in France April 23, 1859.)	Dec. 10, 1861.
1886	Pollard, Leonard L	Worcester, Mass	Auger handle	July 23, 1861.
2898	Pollock, David	Lancaster, Pa	Connecting rods for locomotives	Dec. 10, 1861.
2899	Pomeroy, John H	Jordan, N. Y	Steam engine governor	Dec. 10, 1861.
115	Pond, Joseph F	Cleveland, Ohio	Washing machine.....(Reissue)	Aug. 13, 1861.
2099	Pond, Joseph F	Cleveland, Ohio	Seed planters	Aug. 20, 1861.
2046	Pond, Moses	Boston, Mass.	Cooking range	Aug. 13, 1861.
	Pool, J. A. & G. G., and J. B. Morehead. (*See* Morehead & Pool.)			
1734	Poole, James, assignor to self and James Ingram	New York, N. Y	Gas burners	July 2, 1861.
2260	Pope, Samuel P	Burlington, N. Y	Machines for trimming leather	Sept. 10, 1861.
2047	Port, Henry	New York, N. Y	Boots and shoes	Aug. 13, 1861.
	Porter, Alexander. (*See* Hazard, Rusel, assignor.)			
1579	Porter, Charles T	New York, N. Y	Centrifugal governors for steam engines	June 18, 1861.
616	Porter, John	Jefferson, Texas	Steam boiler	Mar. 5, 1861.
2900	Porter, Robert D	Zanesville, Ohio	Currycombs	Dec. 10, 1861.
2222	Porter, Rufus, assignor to self and H. T. Litchfield	Melrose, Mass	Apparatus for elevating liquids by retained power	Sept. 3, 1861.
1642	Porter, Thomas W	Bangor, Me	Ox yokes	June 25, 1861.
1580	Post, Abel	Henrietta, N. Y	Mode of ventilating hay, grain, &c	June 18, 1861.
	Post, G. H. (*See* Prescott, Peter, assignor.)			
1847	Post, Simeon S. & Andrew J., assignors to A. J. Post and E. C. Clark.	Jersey City, N. J	Lamps	July 16, 1861.
617	Potter, Charles, jr	Westerly, R. I	Printing presses	Mar. 5, 1861.
	Potter, H. S, and T. S. Cone. (*See* Cone & Potter.)			
2791	*Potts, Joseph D*	*Pittsburg, Pa*	Retrackers for railroad cars	Nov. 26, 1861.
1887	*Powell, M. L*	New Castle, Ind	Burglars alarm	July 23, 1861.
618	Power, John N	*New York, N. Y*	*Method of jointing telegraphic conductors*	Mar. 5, 1861.
2597	*Powers, Charles, and P. Lancaster*	Bronson, Mich	Binding attachment to harvesters	Oct. 29, 1861.
472	*Powers, Hiram*	Florence, Italy	Punching machine	Feb. 19, 1861.
1308	Powers, Thomas	Philadelphia, Pa	Gas regulators	Mar. 19, 1861.
254	Powers, Titus	Philadelphia, Pa	Locks	Jan. 29, 1861.
2812	Pratt, Francis A., assignor to Geo. S. Lincoln & Co	Hartford, Conn	Stopping and changing motion	Nov. 26, 1861.
2223	Pratt, H. S., assignor to J. J. Hough & Co	Hartford, Conn	Tinsmith shears	Sept. 3, 1861.
	Pratt, Julius, & Co. (*See* Savage, Elliot, assignor.)			
	Pratt, Raynolds & Devoe. (*See* Drummond, Jas. F., ass'r.)			
	Pratt, Whitney & Co. (*See* Stannard, Monroe, assignor.)			
2462	Prescott, Peter, assignor to self and G. H. Post	Booneville, N. Y	Lathes for turning broom handles	Oct. 8, 1861.
575	Preston, F. B., assignor to self and W. H. Stapleton	Fayette, Mo	Corn planters	Feb. 26, 1861.

1643	Preston, Jno. Augustus	Boston, Mass	Bottle stoppers	June 25, 1861.
2264	Preston, K. H. C	Manlius, N. Y	Guard fingers for harvesters	Sept. 10, 1861.
2971	Preston, K. H. C, assignor to E. P. Russell	Manlius, N. Y	Harvesters	Dec. 17, 1861.
	Pressey, John B., and Daniel Sheets. (*See* Sheets & Pressey.)			
396	Price, Whitman	Mount Olive, N. C	Cultivators	Feb. 12, 1861.
	Prince, G. A., and Thomas Stephenson. (*See* Woodbury, Hiram, assignor.)			
	Prince, assignor to Neumann. (*See Neumann, Cæsar*)			
1076	Pritz, Adam	Dayton, Ohio	Harvesters (Reissue)	April 16, 1861.
33	Probst, Charles	Hudson City, N. J	Window glass (Design)	April 9, 1861.
1846	Pruden, D. R., assignor to self and C. A. Wellington	West Meriden, Conn	Ornamenting hollow articles of metal	July 16, 1861.
	Prussing, E., and O. T. L. Heine. (*See* Heine & Prussing)			
2792	Puffer, A. D	Somerville, Mass	Soda fountains	Nov. 26, 1861.
1581	Pullan, Richard B	Cincinnati, Ohio	Bedstead drapery fastener or suspender	June 18, 1861.
2955	Pullan, R. B	Cumminsville, Ohio	Tents	Dec. 17, 1861.
3025	Pullan, R. B., assignor to Jessie D. Pullan	Cincinnati, Ohio	Lamps	Dec. 24, 1861.
	Pulver, Wm. H	Troy, N. Y	Fire-grates	July 27, 1861.
	Punchus, J. (*See* Davis & Punchus.)			
184	Purington, Frederick H	Willimantic, Conn	Drawer alarms	Jan. 22, 1861.
2598	Putnam, Henry W	Cleveland, Ohio	Apparatus for filling bottles	Oct. 29, 1861.
2936	Putnam, Henry W	Cleveland, Ohio	Clothes wringer	Dec. 17, 1861.
619	Putnam, Silas S	Dorchester, Mass	Curtain fixture	Mar. 5, 1861.
1527	Putnam, Silas S	Dorchester, Mass	Horse-shoe nail machine	June 11, 1861.
2445	Quackenbush, Abram P	Brooklyn, N. Y	Washing machine	Oct. 8, 1861.
2016	Quann, William, assignor to self and William N. & Jos. H. Taylor, assignors to Wm. Quann, Wm. N. Taylor, and Lathrop & Wetmore.	Philadelphia, Pa	Process for the reduction of iron ore	Aug. 6, 1861.
85	Quarton, W. B	Caglinville, Ill	Seeding machines	Jan. 8, 1861.
1430	Quigley, John	Winona, Minn	Animal traps	May 28, 1861.
734	Quinby, W. F	Stanton, Del	Cultivators	Mar. 19, 1861.
2793	Quinby, W. F	Stanton, Del	Apparatus for navigating the air	Nov. 26, 1861.
994	Quinn, Abraham	New York, N. Y	Apparatus for distilling oils	April 9, 1861.
	Rabbeth, James	East Hartford, Conn	Diaper pins (Extension)	Jan. 19, 1861.
1614	Race, George	Norwich, N. Y	Water elevators	June 25, 1861.
34	Race, Washburn, assignor to S. H. Ransom & Co	Seneca Falls, N. Y	Register for stoves (Reissue)	Feb. 19, 1861.
	Raden, Reuben, and George Hall. (*See* Hatfield, W. E., assignor.)			
2106	Rahill, James	Ramsgate, Eng	Artificial horizons for quadrants. (Patented in England July 30, 1860.)	Aug. 20, 1861.
1888	Rainey, Thomas	New York, N. Y	Car seats	July 22, 1861.
1200	Rains, George W	Newburg, N. Y	Steam boilers	April 30, 1861.
1528	Rains, George W	Newburg, N. Y	Safety apparatus for steam boilers	June 11, 1861.
2187	Ralph, Alexander	Newcastle county, Del	Foot-scraper	Oct. 15, 1861.
	Ralston, A., and Benjamin Hoyle. (*See* Hoyle & Ralston.)			
1141	Ramsay, John, and A. B. Smith	Clinton, Pa	Guides for cutting out pantaloons	April 23, 1861.
	Rand, J. B. (*See* Long, Wm. A. N., assignor.)			
	Rand, J. B. (*See* Long, Wm. A. N., assignor.)			
2048	Rand, Jacob B., and W. A. N. Long, assignors to J. B. Rand	Fisherville, N. H	Corn shellers	Aug. 13, 1861.
1709	Rand, John S	North Providence, R. I	Water elevators	July 2, 1861.
620	Randall, David F	Hartford, Conn	Tatting frames	Mar. 5, 1861.
2554	Randall, D. F., assignor to E. W. Sperry, J. H. Ashmead, E. Hurlburt, and H. E. Robbins, assignors to S. S. Rogers and Green Kendrick.	Hartford, Conn	Burnishing machine	Oct. 22, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2555	Randall, Henry, assignor to self and Isaac P. Baldwin	Philadelphia, Pa	Ship building	Oct. 22, 1861.
901	Randall, William	Uxbridge, Canada	Excavator	April 2, 1861.
1199	Randall, A	New York, N. Y	Preparing paper stock	April 30, 1861.
1335	Range, John, assignor to J. & E. Parker	Meriden, Conn	Thumb latch	May 14, 1861.
	Rankin, Andrew. (*See* Delastatius, Alfred, assignor.)			
3007	Rankin, Wm	New York, N. Y	Tents	Dec. 24, 1861.
277	Ransom, A., assignor to self and George R. Comstock	Manheim, N. Y	Machine for turning boot-legs	Jan. 29, 1861.
763	Ransom, Albion, and R. D. Granger, assignors to S. H. Ransom & Co.	Albany, N. Y	Tea-kettles	Mar. 19, 1861.
	Ransom & Co. (*See* Ransom & Granger, assignors.)			
	Ransom, S. H., & Co. (*See* Race, Washburn, assignor.)			
1710	Rappleye, T. S. & T. W	Farmer, N. Y	Ploughs	July 2, 1861.
	Rathbone, John F. (*See* Gibbs, Samuel W., assignor.)			
	Rathbone, John F. (*See* Gibbs, Samuel W., assignor.)			
	Rathbone, John F. (*See* Gibbs, Samuel W., assignor.)			
	Rathbone, John F. (*See* Gibbs, Samuel W., assignor.)			
902	Rawson, D. W. S	Galena, Ill	Varnishing photographs on paper	April 2, 1861.
1780	Rawson, Henry	Leicester, England	Machines for combing wool	July 9, 1861.
2488	Rawson, Ruel	Warsaw, Ind	Sawsets	Oct. 15, 1861.
2749	Ray, Charles	Boston, Mass	Stirrups	Nov. 19, 1861.
1781	Raymond, Charles	Brattleboro', Vt	Sewing machines	July 9, 1861.
1921	Raymond, Charles	Brattleboro', Vt	Sewing machines	July 30, 1861.
	Raynolds, Devoe & Pratt. (*See* Drummond, Jas. F., ass'r.)			
	Read, R. (*See* Seidler, George N., assignor.)			
2847	Ready, William B	Sacramento, Cal	Gang ploughs	Dec. 3, 1861.
1809	Reckendorfer, Joseph, and J. C. Richards	New York, N. Y Brooklyn, N. Y	Envelope	July 9, 1861.
1742	Redding, John W	Belleville, Ohio	Pumps	July 2, 1861.
	Redfield, Geo. B., trustee, for the benefit of C. Gates, *et al.* (*See* Sprague, Joseph W., assignor.)			
84	Redington, F. A., and G. McCluer	Fredonia, N. Y	Manufacture of cheese (Reissue)	May 21, 1861.
2359	Reed, Benjamin	Pitt-burg, Pa	Washing machines	Sept. 24, 1861.
995	Reed, George P	Roxbury, Mass	Watch escapement	April 9, 1861.
735	Reed, James	Newville, Ohio	Water wheels	Mar. 19, 1861.
	Reed, John B., and R. A. Blair. (*See* Blair & Reed.)			
820	Reed, William G	Chelsea, Mass	Metallic roofing	Mar. 26, 1861.
1377	Reese, Abraham	Pittsburg, Pa	Bolt and rivet machine	May 21, 1861.
	Reese, A. R., and G. W. Lee. (*See* Lee & Reese.)			
2659	Reese, A. R., Wm. Gould, and Nelson Lake	Phillipsburg, N. J	Rakes for harvesters	Nov. 5, 1861.
323	Reese, Jacob	Pittsburg, Pa	Construction of the fire chambers, and in operating the fires of reverberatory furnaces.	Feb. 5, 1861.
2262	Reeve, Augustus	Alloway's town, N. J	Shutter and blind bolt	Sept. 10, 1861.
1889	Regester, Joshua	Baltimore, Md	Street washers	July 23, 1861.
2489	Reidy, James	Cork, Ireland	Machines for breaking stones and other hard substances	Oct. 15, 1861.
30	Reif, Christian	Hartleton, Pa	Clover separators (Reissue)	Feb. 5, 1861.

1735	Reighard, Jacob, assignor to Hale, Atterbury & Co.	Birmingham, Pa.	Glass lamps	July	2, 1861.
	Reiley, R. T., *et al.* (See McMinn, Geo. W., assignor.)				
2599	Reiniger, G. A.	Stuttgart, Wurtemburg.	Machines for making the bodies of cigars	Oct.	29, 1861.
2600	Reiniger, G. A.		Machine for putting on the wrappers of cigars	Oct.	29, 1861.
137	Reister, George H., assignor to self, E. Cadwalader, and L. S. Butterfield.	Washington, Iowa.	Windmills	Jan.	15, 1861.
28	Reist, John	Philadelphia, Pa.	Scissors	Jan.	1, 1861
736	Relyea, George U., and	Veteran, N. Y.			
	John Relyea.	Horse Heads, N. Y.	Straw-cutters	Mar.	19, 1861.
397	Renshaw, James H.	Knoxville, Tenn.	Metallic coffins	Feb.	12, 1861.
737	Rentgen, William C.	Keokuk, Iowa.	Hand trucks	Mar.	19, 1861.
821	Rentgen, W. C., and P. H. Holmes	Keokuk, Iowa.	Fan attachment for threshing machines	Mar.	26, 1861.
2360	Renwick, Edward, S.	New York, N. Y.	Propeller	Sept	24, 1861.
1077	Resor, William.	Cincinnati, Ohio	Cooking stoves	April	16, 1861.
822	Reynolds, Charles H	New York, N. Y.	Wrench	Mar.	26, 1861.
29	Reynolds, George H.	New York, N. Y.	Mounting lithographic stones	Jan.	1, 1861.
1911	Reynolds, Geo. S., assignor to self, James Brown, and J. M. Whitney.	Tunbridge, Vt.	Harvesters	July	23, 1861.
1838	Reynolds, H. H.	Buffalo, N. Y.	Instruments for cure of spermatorrhœa	July	16, 1861.
2158	Reynolds, H. H	Buffalo, N. Y.	Spermatorrhœa instrument	Aug.	27, 1861.
324	Reynolds, Ira	Bellefontaine, Ohio	Straw cutters	Feb.	5, 1861.
209	Reynolds, John P., assignor to H. H. Robertson and C. G. Carr.	Mirabile, Mo.	Harness for shoeing horses	Jan.	22, 1861.
1480	Reynolds, Oliver	Webster, N. Y.	Bee hives	June	4, 1861.
1378	Reynolds, Rensselaer	Stockport, N. Y.	Let-off motion for looms	May	21, 1861.
3008	Reynolds, Rensselaer	Stockport, N. Y.	Friction clutches	Dec.	24, 1861.
1142	Reynolds, Samuel	Duquesne Borough, Pa.	Handle for hoes	April	23, 1861.
398	Reynolds, Stephen	Richmond, Ind.	Machines for binding grain	Feb.	12, 1861.
1645	Rhoades, George M.	Hamilton, N. Y.	Machines for trimming teasels	June	25, 1861.
1713	Rhoades, George M.	Hamilton, N. Y.	Butter workers	July	2, 1861.
1646	Rhoads, William B.	South Dedham, Mass.	Clothes wringer	June	25, 1861.
903	Rible, John H.	Dayton, Ohio	Mowing machines	April	2, 1861.
671	Rice, Byron	Schuyler, N. Y.	Grain separators	Mar.	12, 1861.
1078	Rice, George W.	Demopolis, Ala.	Cotton cultivators	April	16, 1861.
210	Rice, Quartus, assignor to Lorenzo Rice	Nevada, Cal.	Sewing machines	Jan.	22, 1861.
425	Rice, Quartus, assignor to self and L. H. Smith	West Winsted, Conn.	Sewing machines	Feb.	19, 1861.
2865	Rice, Samuel G., assignor to self and Hezekiah Dodge	Albany, N. Y.	Sash fasteners	Dec.	3, 1861.
255	Rich, Tamson G.	Milton, Mass.	Ankle supporting gaiters	Jan.	29, 1861.
	Richards, Allen. (See Brown, J. F., assignor.)				
621	Richards, C. B.	Brooklyn, N. Y.	Sewing machines	Mar.	5, 1861.
	Richards & Goble. (See Williamson, George, assignor.)				
2449	Richards, Henry E.	Newark, N. J.	Coffee roasters	Oct.	8, 1861.
	Richards, J. C., and J. Reckendorfer. (See Reckendorfer & Richards.)				
1912	Richards, William H., assignor to Charles T. Babcock	Newton, Mass.	Combined knife, fork, and spoon	July	23, 1861.
2448	Richardson, Charles	Auburn, N. Y.	Machine for rolling horseshoe iron	Oct.	8, 1861.
622	Richardson, Francis B.	Boston, Mass.	Enema syringes	Mar.	5, 1861.
1665	Richardson, Geo. M., assignor to self and Robert Glover	Grayville, Ill.	Harvesters	June	25, 1861.
1647	Richardson, N. H.	Fitchburg, Mass.	Rattan machine	June	25, 1861.
1714	Richardson, T. M.	Searsport, Maine	Baggage director	July	2, 1861.
1079	Richmond, E. J., and T. Wright	New York, N. Y.	Stable broom	April	16, 1861.
2660	Richmond, T. R.	Massillon, Ohio.	Seeding machines	Nov.	5, 1861.
2159	Richter, Frederick.	Orange, Ohio.	Portable fences	Aug.	27, 1861.
102	Rickerby, Daniel.	Boston, Mass.	Slate roofing (Design)	Aug.	13, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
904	Ricketson, Barton	New Bedford, Mass.	Apparatus for setting up ships' rigging	April 2, 1861.
3009	Rider, Alexander K	Hydeville, Vt.	Cut-off gear for steam-engines	Dec. 24, 1861.
2003	Rider, Joseph	Newark, Ohio	Water elevators	Aug. 6, 1861.
996	Ridout, Moses T	Milwaukie, Wis.	Railroad indicator	April 9, 1861.
2539	Ridout, Moses T.	Milwaukie, Wis.	Bootjack	Oct. 22, 1861.
2240	Riess, William, sr.	Reading, Pa.	Manufacturing of sheet iron	Sept. 3, 1861.
738	Riggs, William S.	Highstown, N. J.	Cultivators	Mar. 19, 1861.
399	Riling, Martin	Altoona, Pa.	Sausage stuffer	Feb. 12, 1861.
1921	Rinewalt, George, jr.	Brattleborough, Vt.	Wood planing machine	July 30, 1861.
31	Ripley, Ezra	Troy, N. Y.	Mode of hanging covers to bailed metallic hollow ware	Jan. 1, 1861.
30	Ripley, Ezra	Troy, N. Y.	Wrench	Jan. 1, 1861.
2540	Ripley, Ezra	Troy, N. Y.	Repeating gun battery (Design)	Oct. 22, 1861.
	Ripley, E., and N. S. Vedder. (*See* Vedder & Ripley.)			
1080	Ritchey, Powers	Hamilton, Ill.	Corn planters	April 16, 1861.
	Robbins, H. E., *et al.* (*See* Randall, D. F., assignor.)			
553	Roberds, J. M.	Washington, D. C.	Bridle bits	Feb. 26, 1861.
1081	Roberts, Cyrus	Belleville, Ill.	Machines for threshing and separating grain	April 16, 1861.
849	Roberts, Edward, assignor to Code, Hopper & Gratz	Philadelphia, Pa.	Time tell-tale	Mar. 26, 1861.
	Roberts, George C. (*See* Page, Charles G., assignor.)			
460	Roberts, Mark L.	Mount Union, Ohio	Knitting machines	Feb. 12, 1861.
1336	Roberts, S., assignor to self and Alfred Adams	Cleveland, Ohio	Barrel	May 14, 1861.
554	Roberts, Sheridan	Cleveland, Ohio	Method of making barrels	Feb. 26, 1861.
126	Roberts, Washington	Rocheport, Mo.	Covering ploughs	Jan. 15, 1861.
	Robertson & Carr. (*See* Reynolds, John P., assignor.)			
401	Robertson, Daniel M.	Manchester, N. H.	Machine for feeding screw blanks	Feb. 12, 1861.
	Robertson, George W. (*See* Neuman, Joseph, assignor.)			
2490	Robertson, James	New York, N. Y.	Portable water-closet utensil	Oct. 15, 1861.
402	Robertson, W. B.	West Baton Rouge, La.	Cane harvesters	Feb. 12, 1861.
	Robins, S. P., *et al.* (*See* Scott, John A., assignor.)			
1143	Robinson, Charles	Cambridgeport, Mass.	Clothes dryer	April 23, 1861.
2463	Robinson, Enoch, assignor to Old Colony Iron Company	Raynham, Mass.	Machine for bending wood	Oct. 8, 1861.
823	Robinson, George C.	Boston, Mass.	Apparatus for drying salt (Antedated Oct. 8, 1860.)	Mar. 26, 1861.
1715	Robinson, George W.	Somerville, Mass.	Steering apparatus	July 2, 1861.
623	Robinson, J. R.	Boston, Mass.	Steam boiler furnaces	Mar. 5, 1861.
739	Robinson, J. R.	Boston, Mass.	Steam boiler furnaces	Mar. 19, 1861.
740	Robinson, J. R.	Boston, Mass.	Damper for metalic tubular steam boiler	Mar. 19, 1861.
1202	Robinson, J. R.	Boston, Mass.	Safety plugs for steam boilers	April 30, 1861.
1201	Robinson, J. R.	Boston, Mass.	Steam-engines	April 30, 1861.
1309	Robinson, J. R.	Boston, Mass.	Steam boiler's furnaces	May 14, 1861.
79	Robinson, J. R.	Boston, Mass.	Steam boiler furnaces (Reissue.)	May 14, 1861.
1530	Robinson, J. R.	Boston, Mass.	Valve gear of steam-engines	June 11, 1861.
1529	Robinson, J. R.	Boston, Mass.	Dampers for steam boilers	June 11, 1861.
1582	Robinson, John	North Andover, Mass.	Picker-motion for looms	June 18, 1861.
	Robinson, S. B., and R. G. Turner. (*See* Turner & Robinson.)			

2601	Robinson, William	Rochester, N. Y.	Mode of watering cattle on railroad cars	Oct. 29, 1861.
1481	Robinson, W. W.	Ripon, Wis.	Pumps	June 4, 1861.
2057	Rochow, Ferdinand	New York, N. Y.	Rotary pumps	Dec. 17, 1861.
2049	Rockwell, T. B. & R. N.	Batavia, Ill.	Seed planters	Aug. 13, 1861.
997	Rodd, Horatio	Chestnut Hill, Pa.	Linep smoother	April 9, 1861.
2278	Rodgers, George H, assignor to self and John Rodgers	Baltimore, Md	Hydrants	Sept. 10, 1861.
185	Rodier, Louis C	Springfield, Mass.	Tool handles	Jan. 22, 1861.
555	Rodman, J. M.	South Union, Ky.	Ploughs	Feb. 26, 1861.
	Rodman, T. J.	Watertown, Mass.	Casting ordnance, &c. (Extension.)	July 23, 1861.
824	Roe, Martin	Townsend, Ohio	Sugar mills	Mar. 26, 1861.
2361	Roebuck, Samuel	Brooklyn, N. Y.	Mosquito bar	Sept. 24, 1861.
	Roeder, H. E, *et al.* (*See* Muller, Julius J., assignor.)			
2362	Roeder, Henry E.	New York, N. Y.	Car spring	Sept. 24, 1861.
	Rogers, Edward G. (*See* Crane, Moses G., assignor.)			
	Rogers, Henry, *et al.* (*See* Forrist & Wheeler, assignors.)			
403	Rogers, Henry D.	Grafton, Ohio	Ploughs	Feb. 12, 1861.
576	Rogers, Isaac, assignor to Samuel Daskam	Haverstraw, N. Y.	Furnaces for treating iron ores	Feb. 26, 1861.
1145	Rogers, R. E., and James Black	Philadelphia, Pa	Method of combining and utilizing steam and air	April 23, 1861.
	Rogers, S. S., *et al.* (*See* Randall, D. F., assignor.)			
	Rogers, S. S., *et al.* (*See* Stever, Jeremiah, assignor.)			
1144	Rogowski, John	New York, N. Y.	Night reading desk	April 23, 1861.
2447	Rohrer, Jeremiah	Middleton, Pa.	Bee hives	Oct. 8, 1861.
2363	Roney, Benjamin T.	Bristol Pa.	Coal stoves	Sept. 24, 1861.
33	Rooker, Thomas N.	New York, N. Y.	Type cases	Jan. 1, 1861.
	Roos, August, and F. Streubel. (*See* Strubel & Roos.)			
	Root & Jewett. (*See* Stanard, Walter W., assignor.)		(Design)	
	Root & Jewett. (*See* Stanard, Walter W., assignor.)		(Design)	
	Root & Jewett. (*See* Stanard, Walter W., assignor.)		(Design)	
1204	Root, John B.	Battle Creek, Mich.	Rotary engines	April 30, 1861.
2146	Root, Riley	Galesburg, Ill.	Processes of clarifying saccharine juices	Oct. 8, 1861.
624	Rose, Israel M.	New York, N. Y.	Sewing machines	Mar. 5, 1861.
	Rosecrans, W. S., and A. H. Platt. (*See* Platt & Rosecrans.)			
	Rosecrans, W S, and A. H. Platt. (*See* Platt & Rosecrans.)			
3026	Rosencrantz, E. D., assignor to self, John S. Hull, and Nelson Gates	Cincinnati, Ohio	Lamps	Dec. 24, 1861.
40	Ross, F. A., and William H. Marshall	New York, N. Y.	Sewing machine cases (Reissue)	Feb. 26, 1861.
2361	Ross, Julia A., executrix of James P. Ross, deceased	Lewisburg, Pa.	Valve-gear for steam engines	Sept. 24, 1861.
1203	Ross, Joseph W.	Boston, Mass.	Inkstands	April 30, 1861.
825	Ross, Noble G.	Cincinnati, Ohio	Sewing machines	Mar. 26, 1861.
2504	Ross, Robert, assignor to self and Richard Bond	Pittsburg, Pa	Oil-cup or lubricator	Oct. 15, 1861.
	Rote, Samuel, and J. Goodman. (*See* Goodman & Rote.)			
556	Roughton, E.	Frostburg, Md	Arrangement of carriage springs	Feb. 26, 1861.
2681	Rouillon, O. A. A., assignor to W. Hermann Stubbe	New York, N. Y.	Bed bottom	Nov. 5, 1861.
672	Rounds, Marcus M.	New Haven, Conn	Furnace grates	Mar. 12, 1861.
1890	Rounds, Stephen M.	Somerset, Mass.	Extension table	July 23, 1861.
32	Rowand, Archibald H.	Alleghany, Pa.	Coupling for railroad cars	Jan. 1, 1861.
315	Rowand, Archibald H.	Alleghany, Pa.	Coupling for railroad cars (Additional improvement)	Feb. 26, 1861.
2661	Rowand, John Randolph	Philadelphia, Pa	Mode of diminishing effect of collision on railways	Nov. 5, 1861.
352	Rowe, John L., assignor to M. Merrill and T. Holmes	New York, N. Y.	Nozing for locks	Feb. 5, 1861.
762	Rowe, John L., assignor to self and T. Rudderforth	New York, N. Y.	Ice crusher	Mar. 19, 1861.
1205	Rowe, William	Charlestown, Va.	Machines for threshing and cleaning clover	April 30, 1861.
	Rower, Brinkerhoff, *et al.* (*See* Burr, Theodore, assignor.)			
	Rower, Theodore, *et al.* (*See* Burr, Theodore, assignor.)			

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
186	Roys, Thomas W	Southampton, N. Y	Harpoon guns	Jan. 22, 1861.
	Ruddeforth, T., *et al.* (*See* Rowe, Jno. L., assignor.)			
473	Ruggles, Daniel	Barre, Mass	Brakes for sewing machines	Feb. 19, 1861.
673	Rulofson, J., and D. DeGarmo	Rochester, N. Y	Ploughs	Mar. 12, 1861.
2004	Russell, Albert	Newburyport, Mass	Pumps	Aug. 6, 1861.
905	Russell, Andrew J	New York, N. Y	Adhesive material	April 2, 1861.
998	Russell, Benjamin	Brooklyn, N. Y	Door bolt	April 9, 1861.
1716	Russell, Caleb	Pittsburg, Pa	Apparatus for destroying insects, reptiles, &c	July 2, 1861
1783	Russell, Edmund	Brooklyn, N. Y	Oscillating steam engines	July 9, 1861.
741	Russell, E. P	Manlius, N. Y	Fingers for harvesters	Mar. 19, 1861.
2709	Russell, E. P	Manlius, N. Y	Reels for harvesters	Nov. 12, 1861.
2708	Russell, E. P	Manlius, N. Y	Harvesters	Nov. 12, 1861.
3010	Russell, E. P	Manlius, N. Y	Harvesters	Dec. 24, 1861.
	Russell, E. P. (*See* Preston, K. H. C., assignor.)			
	Russell & Erwin, manufacturing company. (*See* Lyons, Thomas, assignor.)			
2101	Russell, Stephen H	Boston, Mass	Canteen filler	Aug. 20, 1861.
2541	Ruth, Jacob	Philadelphia, Pa	Apparatus for removing invalids	Oct. 22, 1861.
1250	Ryerson, Van Buren	New York, N. Y	Method of distillation	May 7, 1861.
1484	Ryerson, Van Buren	New York, N. Y	Modes of condensing mercury in amalgamating vessels	June 4, 1861.
1784	Sabbaton, Jos. A	New York, N. Y	Dry gas metres	July 9, 1861.
	Sackett, Davis & Co. (*See* Perry, Edwin H., assignor.)			
	Safely & Fuller. (*See* Parkhurst, Orson, assignor.)			
742	Safford, J. A	Boston, Mass	Machine for splitting leather. (Antedated Nov. 19, 1860)	Mar. 19, 1861.
112	Sailor, S. H., assignor to Smith, Francis & Wells	Philadelphia, Pa	Gas-burning cylinder stove. (Design)	Oct. 8, 1861.
111	Sailor, S. H., assignor to Smith, Francis & Wells	Philadelphia, Pa	Egg-cylinder stove. (Design)	Oct. 8, 1861.
1648	Saladee, Cyrus W	Jefferson county, Texas	Steam ploughs	June 25, 1861.
474	Salmon, W. C., and George F. Bliss	Placerville, Cal	Machine for upsetting tire	Feb. 19, 1861.
557	Sammons, J. S	New York, N. Y	Roofing with slate	Feb. 26, 1861.
1379	Sammons, J. S	New York, N. Y	Mode of roofing with slate	May 21, 1861.
1839	Samson, George W	Washington, D. C	Apparatus for heating railroad cars with steam	July 16, 1861.
1583	Sanborn, Augustus	Glover, Vt	Hill side ploughs	June 18, 1861.
906	Sanborn, Rufus S	Sycamore, Ill	Coffee steeper	April 2, 1861.
86	Sanford, Gelston	New York, N. Y	Horse-powers	Jan. 8, 1861.
464	Sanford, Gelston	New York, N. Y	Mills for grinding paper pulp	Feb. 12, 1871.
475	Sanford, Gelston	New York, N. Y	Machines for treating vegetable fibre	Feb. 19, 1861.
	Sanford, Harroun & Co. (*See* Hill, Geo. J., assignor.)			
1431	Sanford, N. C	Meriden, Conn	Skates	May 28, 1861.
1310	Sanford, Thomas	Claremont, N. H	Steam cock	May 14, 1861.
	Sanford, W. A. (*See* Hewitt, Henry, assignor.)			
256	Sargent, C. G	Chelsea, Mass	Clothes dryer	Jan. 29, 1861.
2848	Sargent, Charles G	Graniteville, Mass	Machines for cleaning fibrous materials	Dec. 3, 1861.
98	Sargent, J. B	New Britain, Conn	Twine box (Design)	April 30, 1861.
2598	Sargent, S., assignor to self and Alvin P. Knapp	Watertown, Mass	Coal oil lanterns	Sep. 17, 1861.
405	Saunders, J. J	Sparta, Ga	Guano spreaders	Feb. 12, 1861.

87	Saunders, Wm H	Hastings, N. Y	Couplings for connecting thills to the axles of carriages	Jan. 8, 1861.
1963	Savage, Elliot, assignor to Julius Pratt & Co	West Meriden, Conn	Machine for gauging and toothing ivory for piano-forte keys	July 30, 1861.
999	Savage, Edward B	Cromwell, Conn	Attaching gun-stocks to pistols	April 9, 1861.
476	Savage, Silas T	Albany, N. Y	Stoves	Feb. 19, 1861.
2750	Sawyer, Addison M	Fitchburg, Mass	Cannister-shot for ordnance	Nov. 19, 1861.
2901	Sawyer, G. T, W. Howland, jr., and T. C. Hatch	New Bedford, Mass	Setting stills	Dec. 10, 1861.
68	Sawyer, J. & S., assignors to American Hoop Machine Co.	Fitchburg, Mass	Hoop machines (Reissue)	April 16, 1861.
1531	Sawyer, Joseph B	Templeton, Mass	Cane-seat for chairs	June 11, 1861.
1030	Sawyer, Landon, assignor to self and A. M. Billings	Springfield, Vt	Shade and curtain roller	April 9, 1861.
3036	Sawyer, Sylvanus	Fitchburg, Mass	Fuse hood for shells	Dec. 24, 1861.
3037	Sawyer, Sylvanus	Fitchburg, Mass	Mandrel for loading case shot, &c	Dec. 24, 1861.
	Saxton, James A. (*See* Hall, Andrew M., assignor.)			
3027	Savre, Charles H, assignor to self and Charles E. Barnard	Utica, N. Y	Projectiles for rifled ordnance	Dec. 24, 1861.
406	Schadt, Charles Henry	New York, N. Y	Anvils	Feb. 12, 1861.
2621	Schaffer, G. F., assignor to self, August Schmidt, and Jas. T. Steer.	New York, N. Y	Machinery for dressing hemp or flax	Oct. 29, 1861.
2751	Schankwiler, Thomas	Fayette, N. Y	Mode of constructing horse-powers	Nov. 19, 1861.
2491	Schankl, John P	Boston, Mass	Safety concussion fuse for explosive projectiles	Oct. 15, 1861.
2849	Scheeper, John	New York, N. Y	Combined axle lubricator and carriage lantern	Dec. 3, 1861.
3011	Scheeper, John	New York, N. Y	Mode of securing carriage wheel hubs to axles	Dec. 24, 1861.
34	Schenerle, Henry	New York, N. Y	Punches for making slides for hoop skirts	Jan. 1, 1861.
54	Schilling, Wm., assignor to self and Jesse Klinefelter	Baltimore, Md	Manufacture of spirituous liquor from tomatoes	Jan. 1, 1861.
1718	Schmidlin, Wm. G., and Jeremiah W. Driscoll	New York, N. Y	Reflectors for lamps	July 2, 1861.
2958	Schmidlin, Wm. G., and Jeremiah W. Driscoll	New York, N. Y	Reflectors for lamps	Dec. 17, 1861.
	Schmidt, August, *et al.*. (*See* Schaffer, G. F., assignor)			
907	Schmidt, C. Frederick	Williamsburg, N. Y	Muzzles for dogs and other animals	April 2, 1861.
325	Schmidt, Frederic E	New York, N. Y	Steam generators	Feb. 5, 1861.
35	Schooley, John C	Cincinnati, Ohio	Refrigerator	Jan. 1, 1861.
908	Schooley, John C	Cincinnati, Ohio	Bathing apparatus	April 2, 1861.
558	Scholl, John T	Port Washington, Wis	Life-boat	Feb. 26, 1861.
1251	Schreyer, Gottlieb	Columbus, Ohio	Mode of making the skeins of axle arms for carriages	May 7, 1861.
1649	Schroder, Herman	New York, N. Y	Breech-loading fire-arm	June 25, 1861.
1891	Schubarth, Casper D	Providence, R. I	Breech-loading fire-arms	July 23, 1861.
	Schulte, A. F. W., and R. Finnegan. (*See* Finnegan & Schulte.			
1964	Schuyler, Isaac S., assignor to John J. Eckel	New York, N. Y	Cotton pickers	July 30, 1861.
2169	Schuyler, Isaac S., assignor to John J. Eckel	New York, N. Y	Oil press	Aug. 27, 1861.
187	Schuyler, Samuel	Brooklyn, N. Y	Grain dryers	Jan. 22, 1861.
477	Scofield, Horace G	North Stamford, Conn	Sewing-work holders	Feb. 19, 1861.
	Scofield, James B., *et al.* (*See* Warren, Scofield, Wardwell & Jones. Design.)			
1432	Scofield, Oramel B	East Stoughton, Mass	Adjustable weather strips	May 28, 1861.
625	Scott, James H	Millport, N. Y	Steam valve	Mar. 5, 1861.
1450	Scott, John A., assignor to self and S. P. Robbins	Rochester, N. Y	Grain separators	May 28, 1861.
1495	Scripture, Eliphat S., assignor to self and Edward White	New York, N. Y	Axle collars	June 4, 1861.
91	Scypes, Daniel M., and S. Smith, assignor to Smith, Francis & Wells.	Springville, Pa	Cook's stove (Design)	July 23, 1861.
92	Scypes, Daniel M., and S. Smith, assignor to Smith, Francis & Wells	Springville, Pa	Summer range (Design)	July 23, 1861.
	Seamless Clothing Manufacturing Company. (*See* Whipple, J. F., assignor.)			
	Sears, J. H., and B. Merritt. (*See* Merritt & Sears.)			
1892	Seebold, Jacob	New Berlin, Pa	Grain threshing and separating machines	July 23, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2160	Seeley, David W.	Albany, N. Y.	Churns	Aug. 27, 1861.
1719	Seeley, H. H., and P. Griswold	Hudson, Mich.	Grain separators	July 2, 1861.
2622	Seeley, Edgar O, assignor to self, George A. Phillips, and Thos. F. Wells.	Brooklin, Mass	Gun-capping implement	Oct. 29, 1861.
1000	Seely, Isaac D.	Milford, N. Y.	Water wheels	April 9, 1861.
1001	Seely, O W	Albany, N. Y.	Construction of salt kettles	April 9, 1861.
1252	Seely, Samuel J	Brooklyn, N. Y.	Mode of constructing iron buildings	May 7, 1861.
1399	Seely, Samuel J	Brooklyn, N. Y.	Construction of iron vessels	May 21, 1861.
2850	Seely, Samuel J	Brooklyn, N. Y.	Portable body battery	Dec. 3, 1861.
108	Seely, Samuel J., assignor to Chas. W. Durant	New York, N. Y.	Iron railroad cars (Reissue)	July 9, 1861.
	Seelye, J. C., *et al.* (*See* Holden, L. & S. B., assignors.)			
1785	Segnitz, B.	New York, N. Y.	Trachea tubes	July 9, 1861.
2492	Seiberling, John F.	Doylestown, Ohio	Harvesters	Oct. 15, 1861.
559	Seibert, Geo. & John	Ashley, Ill.	Ploughs	Feb. 26, 1861.
932	Seidler, Geo. N., assignor to R. Read	Hartford, Conn.	Portable folding beds	April 2, 1861.
626	Seitz, John, sr.	Bloom, Ohio	Presses	Mar. 5, 1861.
	Selden, G. M. (*See* McNamara, D. S., assignor. Reissue.)			
	Selden, G. M. (*See* McNamara, D. S., assignor. B, division of reissue.)			
	Selden, G. M. (*See* McNamara, D. S., assignor. C, division of reissue.)			
	Selden, G. M. (*See* McNamara, D. S., assignor. D, division of reissue.)			
2050	Selden, George M.	Troy, N. Y.	Hydrants	Aug. 13, 1861.
2451	Selleck, Thaddeus, and W. H. Butler	Greenwich, Conn.	Construction of burglar-proof safes	Oct. 8, 1861.
353	Sellers, Coleman, assignor to self and G. Burnham	Philadelphia, Pa.	Exhibiting stereoscopic pictures of moving objects	Feb. 5, 1861.
2279	Sellers, Coleman, assignor to Wm. Sellers & Co.	Philadelphia, Pa	Mode of transmitting motion	Sept. 10, 1861.
188	Sellers, William	Philadelphia, Pa	Ovens	Feb. 5, 1861.
2602	Selser, John	Williamsport, Pa.	Self-opening canalbridges	Oct. 29, 1861.
674	Serrell, Alfred T.	New York, N. Y.	Feeding rollers for rotary planing	Mar. 12, 1861.
	Serrell, Edward W. (*See* Wood, Joseph, assignor.)			
1082	Service, Thomas	Utica, Pa.	Wagon locks	April 16, 1861.
560	Settle, Campbell T.	San José, Cal.	Seeding cultivators	Feb. 26, 1861.
335	Seward, Moses	New Haven, Conn.	Collar for ornamental carriage work	Feb. 5, 1861.
1002	Seward, Porter	Chaseville, Ohio	Wagon brakes	April 9, 1861.
138	Sexton, S. B.	Baltimore, Md.	Stoves (Reissue)	Dec. 3, 1861.
1893	Sexton, S. B.	Baltimore, Md.	Hot-air register	July 23, 1861.
78	Seymour, Frederick J., assignor to Waterbury Brass Co.	Waterbury, Conn.	Making brass kettles (Reissue)	May 14, 1861.
1894	Seymour, George	Cedar Rapids, Iowa	Machines for shelling and grinding corn	July 23, 1861.
	Seymour, Wm. H., *et al.* (*See* Palmer & Williams, assignors.)			
72	Seymour, Wm. H., assignor to self, Dayton S. Morgan, Aaron Palmer, and S. G. Williams.	Brockport, N. Y.	Reaping machines (Reissue)	May 7, 1861.
2005	Shafer, Jas. J., assignor to R. J. Robeson.	Burlington, Iowa	Grain winnower	Aug. 6, 1861.
2902	Shaffer, L. W.	Shelbyville, Ky	Ploughs	Dec. 10, 1861.

826	Shailer, J. S., and G. F. Folsom	Roxbury, Mass	Water metres	Mar. 26, 1861.
1810	Shaler, Reuben	Madison, Conn	Projectiles for fire-arms	July 16, 1861.
2710	Shank, C. H., and S. Stephenson	Hummelstown, Pa	Threshing machines	Nov. 12, 1861.
2959	Shannon, W. A	Washington, D. C	Fire-escape ladders	Dec. 17, 1861.
45	Shares, Daniel W	Hamden, Conn	Harrows (Reissue)	Mar. 12, 1861.
	Sharp, Wm., *et al.* (*See* Wheeler, Grant J., and others.)			
94	Sharps, Christian	Philadelphia, Pa	Breech-loading repeating fire-arms (Reissue)	June 18, 1861.
1786	Sharps, Christian	Philadelphia, Pa	Breech-loading fire-arms	July 9, 1861.
1895	Sharps, Christian	Philadelphia, Pa	Adjustable back sight for fire-arms	July 23, 1861.
2542	Sharps, Christian	Philadelphia, Pa	Hammer guard to fire-arms	Oct. 22, 1861.
2603	Sharps, Christian	Philadelphia, Pa	Breech-loading fire-arms	Oct. 29, 1861.
478	Shavor, Jacob, and A. C. Corse	Troy, N. Y	Gridirons	Feb. 19, 1861.
257	Shaw, Clark	East Aurora, N. Y	Window stop and fastener	Jan. 29, 1861.
103	Shaw, Charles A	Biddeford, Me	Work-holder (Design)	Aug. 13, 1861.
104	Shaw, C. A, and J. R. Clark	Biddeford, Me	Sewing machines (Design)	Aug. 13, 1861.
	Shaw, F. B., *et al.* (*See* Osgood & Shaw.)			
1003	Shaw, Henry L	Milan, Ohio	Sewing machines	April 9, 1861.
2795	Shaw, Philander	Boston, Mass	Hot-air engines	Nov. 26, 1861.
71	Shaw, Philander	Boston, Mass	Air engines (Reissue)	April 23, 1861.
2439	Shaw, Philander	Hartford, Conn	Utilizing the exhaust of caloric engines	Oct. 8, 1861.
1451	Shaw, Philander, assignor to self and E. Townsend	Boston, Mass	Hot air engines	May 28, 1861.
3028	Shaw, Thomas, assignor to self and B. Hart	Hartford, Conn	Revolving fire-arms	Dec. 24, 1861.
2662	Shaw, William	Hudson, N. Y	Supporting and locking window sashes	Nov. 5, 1861.
2960	Shaw, William A	Boston, Mass	Bottle-stopper	Dec. 17, 1861.
647	Shearer, Peter	Reading, Pa	Apparatus for generating power	Mar. 5, 1861.
2211	Shearer, Peter	Reading, Pa	Air or gas engines	Sept. 3, 1861.
561	Shedd, William F	Ripley, Ohio	Ploughs	Feb. 26, 1861.
327	Sheehan, Thomas, assignor to self, C. D. Smith, and C. B. Moss.	Dunkirk, N. Y	Manufacture of files and rasps	Feb. 5, 1861.
2450	Sheets, Daniel, and John B. Pressey	Buffalo, N. Y	Fastening of the handles of mining picks	Oct. 8, 1861.
479	Sheldon, P. B	Prattsburg, N. Y	Roll blotters	Feb. 19, 1861.
1650	Sheldon, Wm. F	East Mendon	Melodeons	June 25, 1861.
1146	Shepard, E. T	Gallipolis, Ohio	Washing machine	April 23, 1861.
480	Shepard, Josiah	Columbia, Texas	Cotton scrapers	Feb. 19, 1861.
1651	Shepard, M. A	Bridgeport, Conn	Water elevators	June 25, 1861.
	Shepard, Stimpson, Waters & Keene. (*See* Jenkins, J., assignor.)			
1147	Shepherd, Calvin	Chenango, N. Y	Water elevators	April 23, 1861.
	Sheppard, Wm., *et al.* (*See* Martin, George W., assignor.)			
	Sheppard, Wm., *et al.* (*See* Martin, George W., assignor.)			
2161	Sherman, Josiah J	Albany, N. Y	Balloons	Aug. 27, 1861.
2102	Sherman, S. M	Fort Dodge, Iowa	Broom	Aug. 20, 1861.
2005	Sherman, S. M	Fort Dodge, Iowa	Basket	Aug. 6, 1861.
2265	Sherwin, William	Shelburne Falls, Mass	Husking pins	Sept. 24, 1861.
2752	Sherwin, W. G., James McFarland, and Charles Thieme	Cincinnati, Ohio	Breech-loading ordnance	Nov. 19, 1861.
	Sherwood, C. W., and J. Sperry. (*See* Sperry & Sherwood.)			
1787	Sherwood, Daniel	Lowell, Mass	Coffee strainer	July 9, 1861.
1311	Sherwood, J. P	Fort Edward, N. Y	Sewing machines	May 14, 1861.
1232	Shinn, John, assignor to self and Barton H. Jenks	Leverington, Pa	Looms	April 30, 1861.
2317	Shinn, John, assignor to self and Wm. Adamson	Leverington, Pa	Clutch pulley	Sept. 17, 1861.
2794	Shipman, J. W	Springfield, N. Y	Pressers for hops, hay, &c	Nov. 26, 1861.
	Shirk & Co., *et al.* (*See* Vedder, N. S., assignor.)			
1652	Shirley, Daniel H	Boston, Mass	Skates (Design)	June 25, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2494	Shivers, Charles, and Stephen Ustick	Philadelphia, Pa	Linings for chimneys	Oct. 15, 1861.
36	Shlarbaum, Herrmann	New York, N. Y	Aquariums	Jan. 1, 1861.
628	Shlarbaum, Herrmann	New York, N. Y	Water-gauges for steam boilers	Mar. 5, 1861.
2604	Shoemaker, Samuel	Smithville, Ohio	Lifting jacks	Oct. 29, 1861.
1923	Sholl, Christian	Mount Joy, Pa	Butt hinges	July 30, 1861.
1721	Shores, S. Z	Towanda, Pa	Hand corn-planters	July 2, 1861.
2464	Short, Joseph, 2d, assignor to Peter W. Neefus and Henry R. Conklin.	New York, N. Y	Overcoat and tent knapsack	Oct. 8, 1861.
2722	Short, Joseph, assignor to Charles Short	New York, N. Y	Knapsack	Nov. 12, 1861.
278	Short, Levi, assignor to self and Charles S. Pierce	Buffalo, N. Y	Vapor lamps	Jan. 29, 1861.
1004	Short, William H	Brooklyn, N. Y	Inlet for sewers	April 9, 1861.
2797	Shotwell, John H	Rahway, N. J	Air-heating apparatus for engine furnaces	Nov. 26, 1861.
1433	Shotwell, S. L., and S. R. Hicks	Ottawa, Ill. / North Hempstead, N. Y.	Steam ploughs	
629	Schultz, S. B	Princeton, Ill	Shop bin, or substitute for drawers	Mar. 5, 1861.
2753	Shute, Aaron	Flushing, N. Y	Fire-escapes	Nov. 19, 1861.
1312	Sibert, Lorenzo, assignor to self and John McCue	Mount Solon, Va	Magazine fire-arm	May 14, 1861.
1	Sickels, Frederick E	New York, N. Y	Steam-engines (Reissue.)	Jan. 1, 1861.
2	Sickels, Frederick E	New York, N. Y	Steam-engines (Division of reissue.)	Jan. 1, 1861.
7	Sickels, Frederick E	New York, N. Y	Method of opening and closing the valves of steam-engines. (Reissue.)	Jan. 1, 1861.
8	Sickels, Frederick E	New York, N. Y	Method of opening and closing the valves of steam-engines. (Division of reissue.)	Jan. 1, 1861.
2798	Sidle, Henry	Dillsburg, Ill	Churns	Nov. 26, 1861.
	Sierer, Henry, *et al.* (*See* Sullenberger, W. H., assignor.)			
	Sigourney, Joseph. (*See* Wright, Julius, assignor.)			
	Sill, Calvin S. (*See* Tucker, Sidney D., assignor.)			
	Silliman, Huntley & Bowman. (*See* Landon, Fred., ass'r.)			
1896	Silverthorn, Newman	Prescott, Wisconsin	Stoves	July 23, 1861.
675	Simmons, Jonathan P	Fulton, N. Y	Packing for barometers	Mar. 12, 1861.
	Simms & Hule. (*See* Tarpley, C. S., deceased.)			
	Simon, Edward, and Oscar Falke. (*See* Falke & Simon.)			
1897	Simon, Frederick	New York, N. Y	Methods of giving smooth surfaces to hard rubber in the moulds.	July 23, 1861.
481	Simonds, Jehial H	New York, N. Y	Hot-air register	Feb. 19, 1861.
744	Simonds, J. H	New York, N. Y	Hot-air register	Mar. 19, 1861.
	Simonds, N. G. (*See* Weiglit, Enoch, assignor.)			
1788	Sims, John	Boston Corners, N. Y	Seed drills	July 9, 1861.
	Singer *et al.* (*See* Johnson & Bartlett, assignors.)			
	Sisson, A. C. (*See* Griswold, George W., assignor.)			
2366	Sisson, William	Fulton, N. Y	Stave machines	Sept. 24, 1861.
	Sisson, S. A., and A. Stoler. (*See* Stoler & Sisson.)			
2754	Skillings, David N., assignor to self and D. B. Flint	Boston, Mass	Portable houses	Nov. 19, 1861.
328	Slaight, Thomas	Newark, N. J	Lock for railway cars	Feb. 5, 1861.
2711	Slaight, Thomas	Newark, N. J	Padlock	Nov. 12, 1861.

258	Slawson, J. B	New Orleans, La.	Fare boxes	Jan. 29, 1861.
	Slicer, Charles H. (*See* Adams, Thomas W., assignor)			
1789	Sloate, Henry R	Sloatsburg, N. Y	Farm gates	July 9, 1861.
1533	Slocum, E. F	Chicago, Ill	Lamps	June 11, 1861.
	Smethurst, Joseph. (*See* Campbell, Chas. F., assignor.)			
	Smith, A. (*See* Allan, R., assignor.)			
3012	Smith, Anthony, assignor to self and Wm. H. Bradley	Hartford, Conn	Revolving fire-arms	Dec. 24, 1861.
	Smith, A. B., and John Ramsay. (*See* Ramsay & Smith.)			
1313	Smith, A. B	Clinton, Pa	Raking attachment to harvesters	May 14, 1861.
88	Smith, Alfred E	Bronxville, N. Y	Railroad car axles	Jan. 8, 1861.
	Smith, A. H., and Silas Barker. (*See* Barker & Smith.)			
2495	Smith, A. J	Decorah, Iowa	Bee hives	Oct. 15, 1861.
1790	Smith, Barzillai C	Burlington, N. J	Railways	July 9, 1861.
105	Smith, Bernard	Cincinnati, Ohio	Burial case	Aug. 27, 1861.
	Smith & Browner. (*See* Townsend, E. C., assignor.)			
89	Smith, B. C	Philadelphia, Pa	Mode of constructing iron pavements	Jan. 8, 1861.
127	Smith, B. C	Burlington, N. J	Pavement and railway combined	Jan. 15, 1861.
2400	Smith, B. C	Burlington N. J	Railroad coupling chairs	Oct. 1, 1861.
	Smith, C. D., *et al.* (*See* Sheehan, Thomas, assignor.)			
2862	Smith, David F., by administrator, Joseph B. Clark, assignor to Aaron W. Smith.	Manchester, N. H	Pliers	Dec. 3, 1861.
	Smith, D. M., *et al.* (*See* Mason, A. C., assignor.)			
745	Smith, Daniel W	Dooly county, Ga	Ploughs	Mar. 19, 1861.
2605	Smith, Dryden	Biddeford, Maine	Self-adjusting uterine supporters	Oct. 29, 1861.
2363	Smith, Edward, and Sidney Cowles	Northford, Conn	Horse rakes	Sept 10, 1861.
1083	Smith, Edwin	Naugatuck, Conn	Suspender buttons	April 16, 1861.
1534	Smith, Erastus W	New York, N. Y	Steam-engines	June 11, 1861.
562	Smith, Francis H	Baltimore, Md	Drying tunnel	Feb. 26, 1861.
	Smith, Francis and Wells. (*See* Scypes & Smith, ass'rs.)			
	Smith, Francis and Wells. (*See* Sailor, S. H., assignor.)			
	Smith, Francis and Wells. (*See* Sailor, S. H., assignor.)			
55	Smith, Garrettson, and Henry Brown, assignors to Leibrandt & McDowell.	Philadelphia, Pa	Cooking stove (Design)	May 14, 1861.
65	Smith, Garrettson, and H. Brown, assignors to Cox, Whiteman & Cox.	Philadelphia, Pa	Stove (Design)	May 28, 1861.
88	Smith, Garrettson, and H. Brown, assignors to North, Chase & North.	Philadelphia, Pa	Iron doors (Design)	July 16, 1861.
1535	Smith, George	New York, N. Y	Combined burglar alarm and animal trap	June 11, 1861.
1898	Smith, George	New York, N. Y	Knife cleaner	July 23, 1861.
1666	Smith, George H., assignor to S. O. Smith	Rochester, N. Y	Gas regulators	June 25, 1861.
134	Smith, James S	New York, N. Y	Epaulets (Reissue)	Nov. 26, 1861.
260	Smith, Justus S	Lowell, Mass	Bed bottom	Jan. 29, 1861.
482	Smith J. Bartlett	Winfield, N. Y	Harvesters	Feb. 19, 1861.
259	Smith, John C	Troy, N. Y	Sewing machines	Jan. 29, 1861.
329	Smith, John Jos. Chas	Philadelphia, Pa	Machine for cutting type	Feb. 5, 1861.
330	Smith, Josiah M	Somers, N. Y	Sewing machines	Feb. 5, 1861.
676	Smith, James S	Brooklyn, N. Y	Cartridge boxes	Mar. 12, 1861.
61	Smith, Jonathan	Tiffin, Ohio	Seed drills (Reissue)	April 2, 1861.
	Smith, J. C., and Joel Haag. (*See* Haag & Smith.)			
1148	Smith, John E	Waterbury, Conn	Buckles	April 23, 1861.
1149	Smith, John K	Trenton, N. J	Steam ploughs	April 23, 1861.
1584	Smith, James S	New York, N. Y	Officers' shoulder straps	June 18, 1861.
1380	Smith, John W	Iowa Point, Kansas	Chair for disseminating medicated vapors	May 21, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2103	Smith, John J	Elizabeth, N. J	Method of operating dampers in steam-heating apparatus	Aug. 20, 1861.
2265	Smith, J. E	Poughkeepsie, N. Y	Electro-magnetic telegraph	Sept. 10, 1861.
2367	Smith, J. Homer	Brewster's Station, N. Y	Gun locks	Sept. 24, 1861.
	Smith, Kyse. (*See* Briggs, Joseph W., assignor.)			
	Smith, L. H., *et al.* (*See* Rice, Quartus, assignor.)			
407	Smith, Louis H	Salem, N. J	Sewing machines	Feb. 12, 1861.
1381	Smith, Louis H	Salem, N. J	Sewing machines	May 21, 1861.
2051	Smith, Lyman, and R. French	North East, Pa. / Keokuk, Iowa	Apparatus to form soap into balls	Aug. 13, 1861.
2401	Smith, Matthew	Pittsburg, Pa	Machines for crushing and pulverizing vegetable and mineral matter.	Oct. 1, 1861.
261	Smith, Pliny F	New York, N. Y	Neck ties	Jan. 29, 1861.
1495	Smith, Russell, assignor to Sidney S. Wheeler	Danbury, Conn	Machines for felting hat bodies	June 4, 1861.
1084	Smith, Samuel J	New York, N. Y	Eyelet machines	April 16, 1861.
	Smith, Samuel F., *et al.* (*See* Coppage, Francis C., ass'r.)			
	Smith, S., and Daniel M. Scypes. (*See* Scypes & Smith, assignors.)			
	Smith, S., and Daniel M. Scypes. (*See* Scypes & Smith, assignors.)			
198	Smith, W. H	Wyanet, Ill	Cultivators	Jan. 15, 1861.
331	Smith, William	Philadelphia, Pa	Valves of steam-engines	Feb. 5, 1861.
2903	Smith, Wilson H	Birmingham, Conn	Breech-loading fire-arms	Dec. 10, 1861.
	Smith, Wm. H., and Chas. R. Gorgas. (*See* Gorgas & Smith.)			
483	Smoote, William H., assignor to self, F. Taylor, C. A. Nelson, and M. Cornnell.	Prince William county, Va	Method of making wooden vessels of staves	Feb. 19, 1861.
2264	Snell, Jasper, and John R. Deihm	Pottsville, Pa	Coal screens	Sept. 10, 1861.
827	Snell, Minard	Medina, N. Y	Stave machine	Mar. 26, 1861.
262	Snider, G. B., and James Gorton	Yorkville, N. Y	Stove lining	Jan. 29, 1861.
484	Snow, William W	Jersey City, N. J	Car wheels	Feb. 19, 1861.
1150	Snow, William W	Jersey City, N. J	Tires for locomotive wheels	April 23, 1861.
	Snyder, Mason & Zwicki. (*See* Zwicki, C., assignor.)			
1085	Snyder, M. D. and S. A	Clarendon, N. Y	Carpet fastener	April 16, 1861.
746	Solis, Richard	New Brunswick, N. J	Fastening for gaiter shoes	Mar. 19, 1861.
828	Solis, Richard	New Brunswick, N. J	Machinery for making elastic shirred goods	Mar. 26, 1861.
1805	Somes, O. E	Biddeford, Me	Methods of preserving meat	April 9, 1861.
1791	Soule, Charles R	Fairfield, Vt	Hay rakes	July 9, 1861.
1205	Soule, George W	Freeport, Me	Rigging clasp	April 30, 1861.
1720	Southard, Thomas J	Richmond, Me	Pumps	July 2, 1861.
1792	Southworth, Levi B	Deep River, Conn	Teeth of saws	July 9, 1861.
1899	Spaulding, Charles F	St. Johnsbury, Vt	Milk pan	July 23, 1861.
1086	Spaulding, Ezariah	Morrisville, Vt	Clothes wringer	April 16, 1861.
	Spaulding, I. D., and Wm. P. Hunt. (*See* Hunt & Spaulding.)			
3038	Spaulding, N. W	San Francisco, Cal	Saw gummers	Dec. 24, 1861.
2266	Spaulding, Nathan W	Sacramento City, Cal	Saws	Sept. 10, 1861.
485	Spear, James	Philadelphia, Pa	Cooking stoves and ranges	Feb. 19, 1861.

1924	Spear, James	Philadelphia, Pa	Fire-board stoves	July 30, 1861.
1006	Speer, James A., jr., assignor to Wm. J. Kane	Manchester, Pa	Cultivators	April 9, 1861.
2104	Speer, L. M.	Belle Vernon, Pa	Machine for washing sand	Aug. 20, 1861.
1925	Spellerberg, Anton	Philadelphia, Pa	Breech-loading fire-arms	July 30, 1861.
	Sperry, E. W. (*See* Stever, Jeremiah, assignor. Reissue.)			
	Sperry, E. W., *et al.* (*See* Randall, D. F., assignor.)			
909	Sperry, John, and O. W. Sherwood	New York, N. Y.	Machine for enamelling picture frames	April 2, 1861.
563	Spooner, H. W.	Erie, Pa	Tubes of artesian wells	Feb. 26, 1861.
677	Sprague, David	Elizabethport, N. J.	Punching machine	Mar. 12, 1861.
212	Sprague, Joseph W., assignor to self, George B. Redfield, trustee, (for the benefit of C. Gates,) James Jones, and Aaron Tyrell.	Rochester, N. Y.	Fire-escapes	Jan. 22, 1861.
	Sprague, L. A., and R. A. Goodyear. (*See* Goodyear & Sprague.)			
2017	Sprague, Welcome, assignor to self, Daniel E. Barker, and Wm. Van Duzer.	Farnham, N. Y.	Reaping machines	Aug. 6, 1861.
	Spring, Marshall, and S. B. Conover. (*See* Conover & Spring.)			
	Staats, J. A., and S. A. Park. (*See* Park & Staats.)			
	Stacey, William, and E. P. Thoonburgh. (*See* Fitts, R. B., assignor.)			
	Staehlen, W., and R. Boeklen. (*See* Boeklen & Staehlen.)			
	Staehlen, W., and R. Boeklen. (*See* Boeklen & Staehlen.)			
2212	Staehlen, William	Brooklyn, N. Y.	Bird cages	Sept. 3, 1861.
129	Stafford, Daniel S.	Decatur, Ill.	Cultivators	Jan. 15, 1861.
332	Stafford, F. W.	New York, N. Y.	Shade fixtures	Feb. 5, 1861.
748	Stafford, Ira A.	Essex, N. Y.	Seeding machines	Mar. 19, 1861.
747	Stafford, M. B.	New York, N. Y.	Stoves	Mar. 19, 1861.
749	Stamm, Frederick	Lancaster, Pa.	Cultivators	Mar. 19, 1861.
408	Stanard, H. T.	Wayne, Mich.	Hanging and operating window sashes	Feb. 12, 1861.
1653	Stanard, Henry T.	Wayne, Mich.	Sash holder	June 25, 1861.
35	Stanard, Walter W., assignor to Jewett & Root	Buffalo, N. Y.	Parlor stoves (Design)	April 9, 1861.
34	Stanard, Walter W., assignor to Jewett & Root	Buffalo, N. Y.	Stoves (Design)	April 9, 1861.
36	Stanard, Walter W., assignor to Jewett & Root	Buffalo, N. Y.	Stoves (Design)	April 9, 1861.
486	Standish, P. H.	Pacheco, Cal.	Harvesters	Feb. 19, 1861.
2105	Standish, P. H.	Santa Clara, Cal.	Threshing machines	Aug. 20, 1861.
1917	Stanhope, Hiram	Philadelphia, Pa.	Breech-loading ordnance	July 23, 1861.
2122	Stannard, Monroe, assignor to Pratt, Whitney & Co.	New Britain, Conn	Rotary pumps	Aug. 20, 1861.
	Stapleton, W. H., *et al.* (*See* Preston, F. B., assignor.)			
1207	Starrett, David J.	Thomaston, Maine	Coal sifter	April 30, 1861.
3013	Stauf, C., and C. J. Steinbach	St. Louis, Mo.	Portable or platoon gun battery	Dec. 24, 1861.
1485	Stearns, L. M.	Cardiff, N. Y.	Ploughs	June 4, 1861.
	Stebbins, E. S., and A. A. Goodspeed. (*See* Goodspeed, Isaac, assignor.)			
1793	Stebbins, Erastus	Chicopee, Mass	Faucets	July 9, 1861.
2606	Stebbins, Lucius	New York, N. Y.	Iron pavements	Oct. 29, 1861.
2267	Stedman, Jarvis H.	Randolph, Vt.	Clothes wringer	Sept. 10, 1861.
	Steer, James T., *et al.* (*See* Schaffer, G. F., assignor.)			
	Steinbach, C. J., and C. Stauf. (*See* Stauf & Steinbach.)			
2712	Steinberg, David	San Francisco, Cal.	Mode of setting artificial teeth	Nov. 12, 1861.
	Steiner, F., and R. Goldenblum. (*See* Goldenblum & Steiner.)			
487	Steinhauser, Frank J.	Lancaster, Pa.	Snow ploughs	Feb. 19, 1861.
1382	Steinway, Henry, jr.	New York, N. Y.	Piano-forte action	May 21, 1861.
1383	Steinway, Henry, jr.	New York, N. Y.	Piano-forte action	May 21, 1861.

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No.	Name of patentee.	Residence.	Invention or discovery.	Date.
	Stelfox, Wm., and S. M. Cain. (*See* Cain & Stelfox.)			
333	Stephan, Peter Paul	Newark, N. J.	Lock attachment	Feb. 5, 1861.
	Stephenson, S., and C. H. Shank. (*See* Shank & Stephenson.)			
	Stephenson, Thomas, and G. A. Prince. (*See* Woodbury, Hiram, assignor.)			
1585	Stevens, A. J	Aurora, Ill	Slide valve for steam-engines	June 18, 1861.
354	Stevens, Edgar M., assignor to self and Levi L. Tower	Boston, Mass.	Machines for winding thread	Feb. 5, 1861.
2018	Stevens, E. M., assignor to Wm. N. Ely	Medford, Mass	Hand-pegging machines	Aug. 6, 1861.
	Stevens, Edgar M., and Francis J. Vittum. (*See* Vittum & Stevens.)			
630	Stevens, Elbridge G	Biddeford, Me	Enema syringes	Mar. 5, 1861.
2854	Stevens, Francis B	Weehawken, N. J	Cut-off	Dec. 3, 1861.
2851	Stevens, Francis B	Weehawken, N. J	Cut-off valve motion	Dec. 3, 1861.
2852	Stevens, Francis B	Weehawken, N. J	Condensers for steam-engines	Dec. 3, 1861.
2853	Stevens, Francis B	Weehawken, N. J	Condensers for steam-engines	Dec. 3, 1861.
334	Stevens, J. V	Pomeroy, Ohio	Churn	Feb. 5, 1861.
829	Stevens, John & Francis	New York, N. Y	Hemmers and folders	Mar. 26, 1861.
1161	Stevens, Joseph, assignor to self and H. M. Currier	Lowell, Mass.	Spring bed bottom	April 23, 1861.
1434	Stevens, Jno., and Luther H. Buell	New York, N. Y	Washing machine	May 28, 1861.
	Stevens, L., and A. Wyckoff. (*See* Wyckoff & Stevens.)			
1913	Stevens, Wm. J., assignor to self and Nathan W. Condict, jr.			
100	Stever, Jeremiah, assignor by *mesne* assignments to Jas. H. Ashmead, E. Hurlbut, E. W. Sperry, S. S. Rogers, and Green Kendrick.	New York, N. Y Bristol, Conn	Means of operating valves of steam-engines Machines for burnishing metals (Reissue)	July 23, 1861. July 2, 1861.
1007	Stewart, David	Annapolis, Md	Coffee pots	April 9, 1861.
2799	Stewart, Joseph	San Francisco, Cal	Manœuvring heavy guns	Nov. 26, 1861.
488	Stewart, William	Philadelphia, Pa	Mills	Feb. 19, 1861.
2623	Stickney, Ancil, assignor to self and Wm. H. Hovey	Concord, N. H	Corn-shellers	Oct. 29, 1861.
1608	Stiles, A. C., assignor to self and A. Ewbanks	Bunker Hill, Wis.	Seeding machines	July 9, 1861.
2309	Stillwell, E. R.	Dayton, Ohio.	Machines for shaping lasts	Sept. 17, 1861.
2691	Stillman, Wm. J	Newburyport, Mass.	Rifle sights	Nov. 12, 1861.
1384	Stilwell, John	Griffin, Ga	Churn	May 21, 1861.
2544	Stilwell, Melancthon	Manlius, N. Y	Bee hives	Oct. 22, 1861.
	Stimpson, Waters, Sheperd & Keene. (*See* Jenkins, J., assignor.)			
	Stinets, C. P. (*See* Hall, E. J., assignor.)			
409	Stirewatt, V			
263	St. John, Sol. C	Albany, Mich	Churn	Feb. 12, 1861.
1452	Stoakes, James W., assignor to self and J. N. Boyland	Edmeston, N. Y	Locks	
2496	Stock, John & Jakob	Milan, Ohio	Sewing machines	May 28, 1861.
1162	Stoddard, F. S., assignor to Edward Coe	New York, N. Y	Boxes for dry photographic plates	Oct. 15, 1861.
410	Stoddard, J. C	Litchfield, Conn	Spinning frames	April 23, 1861.
2019	Stoddard, J. C., assignor to self and W. A. Hacker	Worcester, Mass	Rake-heads	Feb. 12, 1861.
1794	Stoddard, Wm. O	Worcester, Mass	Hand hay rakes	Aug. 6, 1861.
2962	Stoler, A., and S. A. Sisson	Champaign, Ill	Printers' chase	July 9, 1861.
		Bristol, Pa	Cutting apparatus for harvesters	Dec. 17, 1861

1586	Stone, Amasa	Philadelphia, Pa	Apparatus for inserting stoppers in bottles	June 18, 1861.
840	Stone, Horace A	Battle Creek, Mich	Pressing cheese	Mar. 26, 1861.
	Stone, James M. (*See* Adams, George B., assignor.)			
1087	Stone, J., and J. T. Archibald			
564	Stone, L. R	Wapello, Iowa	Corn planters	April 16, 1861.
1314	Stoner, Henry K	Owassa, Mich	Machines for raking and cocking hay	Feb. 26, 1861.
1008	Storer, Jacob I	Lancaster, Pa	Seeding machines	May 14, 1861.
2607	Storm, Wm. Mont	Philadelphia, Pa	Desulphurizing coal and ores	April 9, 1861.
411	Story, *Ephraim J.*	New York, N. Y	Skin cartridges	Oct. 29, 1861.
1088	Stout, Isaac	Getzville, N. Y	Truss bridges	Feb. 12, 1861.
565	Stover, Henry D	Fremont, Ill	Cultivators	April 16, 1861.
85	Stover, Henry D	New York, N. Y	Package case. (Antedated August 26, 1860)	Feb. 26, 1861.
1900	Stover, Henry D	New York, N. Y	Wood planing machines (Reissue)	May 21, 1861.
	Stow, F. R., *et al.* (*See* Lape, William, assignor.)	New York, N. Y	Planing machines	July 23, 1861.
1315	Strayer, Jacob			
2545	Streubel, F., and August Roos	Miamisburg, Ohio	Seed drills	May 14, 1861.
679	Strieby, William	New York, N. Y	Coolers for beer and other liquids	Oct. 22, 1861.
130	Stringfellow, C. C., and D. W. Surles	Wagontown, Pa	Cultivators	Mar. 12, 1861.
	Strong, Estabrook & Luce. (*See* Luce, C. O., assignor.)	Lumpkin, Ga	Mode of hanging carriage bodies	Jan. 15, 1861.
	Strong, F. D., and W. H. Nichols. (*See* Nichols & Strong.)			
	Strong, G. W., and Frederick W. Krause. (*See* Krause & Strong.)			
2800	Strong, James A			
1722	Strong, Timothy F	Hyde Park, Vt	Self-waiting table	Nov. 26, 1861.
1532	Strong, W. B	Fond du Lac, Wis	Apparatus for heating and ventilating railroad cars	July 2, 1861.
	Strong, W. H., *et al.* (*See* Weaver, H. B., assignor.)	New York, N. Y	Trunk convertible into bedstead	June 11, 1861.
1536	Stroh, Abraham			
1723	Strout, Cyrus W	Port Jervis, N. Y	Car coupling	June 11, 1861.
2653	Strout, Cyrus W	Calais, Me	Machine for mortising blind slats	July 2, 1861.
1385	Stuart, James L	Calais, Me	Machines for dovetailing window sashes	Nov. 5, 1861.
	Stuart & Peterson. (*See* Horton & Martino, assignors.)	New York, N. Y	Vessels' fire-extinguishing apparatus	May 21, 1861.
	Stuart & Peterson. (*See* Horton & Martino, assignors.)			
	Stuart & Peterson. (*See* Horton & *Martino*, assignors.)			
2713	Stuart, Silas		(Design)	
631	Stuart, U. T., and C. E. Stewart	Sterling Centre, Mass	Steam boilers	Nov. 12, 1861.
	Stubbe, W. Hermann. (*See* Rouillion, O. A. A., assignor.)	Fayette county, Tenn	Straw cutters	March 5, 1861.
2106	Stubbs, Robert S			
1151	Stuber, Jacob, and F. Frank	Claremont, N. H	Apparatus for working ships' boats	Aug. 20, 1861.
	Sturgess, W. B., and S. S. Fairchild. (*See* Fairchild & Sturgess.)	Utica, N. Y	Lamps	April 23, 1861.
1537	Sturtevant, S. C			
764	Sullenberger, W. H., assignor to self, Henry Sierer, and John Tolbert	Cleveland, Ohio	Tubular grates for steam boilers	June 11, 1861.
		Chambersburg, Pa	Method of hanging handsaws	Mar. 19, 1861.
	Sumner, E. R., and H. Ornisby. (*See* Ornisby & Sumner.)			
489	Supplee, Jonathan R	Bridgeport, Pa	Radiators	Feb. 19, 1861.
	Surles, D. W., *et al.* (*See* Stringfellow & Surles.)			
1208	Swadkins, Alfred	South Boston, Mass	Steam cock	April 30, 1861.
2007	Sweeney, John	Chicago, Ill	Auxiliary apparatus for increasing the draught of the furnaces of locomotive engines	Aug. 6, 1861.
189	Sweeney, Oliver	Norwich, Conn	Knife cleaner	Jan. 22, 1861.
1795	Sweeney, S., and S. Parks	Rome, N. Y	Double seaming sheet metal	July 9, 1861.
2608	Sweet, B. F	Fond du Lac, Wis	Car couplings	Oct. 29, 1861.
3	Sweetland, Geo., assignor to Henry Kinay, Grant, Warren & Co., and Joseph Jordon, jr.	New Haven, Conn	Pulp machines (Reissue)	Jan. 1, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
190	Sweitzer, Jeremiah	Mishawaka, Ind	Ploughs	Jan. 22, 1861.
1209	Swett, James H	Pittsburg, Pa	Spike machine	April 30, 1861.
	Swift, F., and S. M. Wirtz. (*See* Wirtz & Swift.)			
1796	Swift, N. G	Hart's Village, N. Y	Machines for sowing pulverized manure	July 9, 1861.
	Swigert, J. J., and M. F. Williamson. (*See* Williamson & Swigert.)			
	Sylvester, A. H.; *et al.* (*See* Coffin, E. B., assignor.)			
2546	Taber, B. F	Buffalo, N. Y	Rotary pumps	Oct. 22, 1861.
63	Taber, John	Bangor, Maine	Attaching the shrouds of ships	Jan. 1, 1861.
831	Taft, T. F., assignor to self, A. P. Brown, and Wm. M. Page.	Worcester, Mass	Shear and punch	Mar. 26, 1861.
	Tait, A. H., and E. J. Keiley. (*See* Kelley & Tait.)			
2213	Talcott, Orlando	Chicago, Ill	Feeding paper to printing presses	Sept. 3, 1861.
	Taplin, Albert, and Geo. J. Huling. (*See* Huling & Taplin.)			
65	Tarpley, C. S., deceased, by E. W. Tarpley, executrix, and J. T. Simons and Isaac Hull, executors.	Jackson, Miss	Cotton cleaners	Jun. 1, 1861.
	Tatham, Wm. Penn. (*See* Fowler, John, jr., assignor.)			
	Tatham, Wm. Penn. (*See* Fowler, John, jr., assignor.)			
	Tatham, Wm. Penn. (*See* Fowler, John, jr., assignor.)			
	Tatham, Wm. Penn. (*See* Fowler & Worby, assignors.			
	Tatham, Wm. Penn. (*See* Fowler, John, assignor.)			
	Tatham, Wm. Penn. (*See* Fowler, John, jr., *et al.*, assignors.)			
1009	Taylor, Charles F			
1010	Taylor, Charles F	New York, N. Y	Apparatus for reducing spinal curvature	April 9, 1861.
1011	Taylor, Charles F	New York, N. Y	Apparatus for reducing spinal curvature	April 9, 1861.
750	Taylor, Clenson W	New York, N. Y	Apparatus for reducing spinal curvature	April 9, 1861.
	Taylor, F., *et al.* (*See* Smoote, Wm. H., assignor.)		Alarm trunks	
412	Taylor, J. W			
2497	Taylor, J. L	Ashland, Va	Cultivators	Feb. 12, 1861.
413	Taylor, O. C	New York, N. Y	Grooving machines	Oct. 15, 1861
37	Taylor, Robert R	East Burlington, Pa	Straw cutters	Feb. 12, 1861.
832	Taylor, Robert	Reading, Pa	Steam hammer	Jan. 1, 1861.
86	Taylor, Robert R	New York, N. Y	Canal lock gates	Mar. 26, 1861.
490	Taylor, William	Reading, Pa	Steam hammer (Reissue)	May 21, 1861.
	Taylor, W. A., and N. McGraw. (*See* McDuff, James, assignor.)	Berlin, N. Y	Guides for laying cord	Feb. 19, 1861.
	Taylor, William N. & Joseph H. (*See* Quann, William, assignor.)			
2107	Teckelnburg, Charles	Philadelphia, Pa	Sugar cutting machine	Aug. 20, 1861.
1435	Teets, Philip	New York, N. Y	Milk can	May 28, 1861.
38	Terrell, John	Philadelphia, Pa	Knitting machines	Jan. 1, 1861.
118	Terry, Henry	Plymouth, Conn	Clock case front (Design)	Oct. 22, 1861.
2664	Terry, Henry R	Edenboro', Pa	Bee hives	Nov. 5, 1861.
89	Terry, Nancy D	Providence, R. I	Bonnets (Design)	July 16, 1861.
191	Teubner, Augustus C	New York, N. Y	Composition for rendering textile and other fabrics air and water tight.	Jan. 22, 1861.

850	Thayer, Daniel H., assignor to self and Stephen A. Baker...	Lansing, N. Y	Cutting apparatus of harvesters	Mar. 26, 1861.
	Thieme, Charles, *et al.* (*See* Sherwin, McFarland & Thieme.)			
2665	Thiemeyer, Herman F	Baltimore, Md		
2666	Thiemeyer, Herman F	Baltimore, Md	Railroad switch	Nov. 5, 1861.
2609	Thirion, Henry	Miricourt, France	Railroad crossings	Nov. 5, 1861.
192	Thistle, H. L	New York, N. Y	Blast machine	Oct. 29, 1861.
	Thomas, D., and Wm. Yondan. (*See* Yondan & Thomas.)		Spring bed bottoms	Jan. 22, 1861.
491	Thomas, Enoch	Beverly, Va		
1152	Thomas, Joseph	New York, N. Y	Presses	Feb. 19, 1861.
1902	Thomas, Joseph	New York, N. Y	Lamps	April 23, 1861.
2402	Thomas, Joseph	New York, N. Y	Lamps	July 23, 1861.
1654	Thomas, Leopold	Allegheny, Pa	Water metres	Oct. 1, 1861.
2310	Thomas, P. W	Levee, Ky	Valves (Antedated May 21, 1861)	June 25, 1861.
1012	Thomas, W. R., and M. Emanuel, jr	Catasauqua, Pa	Composition for tanning	Sept. 17, 1861.
	Thompson, E. W. (*See* Foster, Samuel L., assignor.)		Composition for blasting powder	April 9, 1861.
5	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet design (A, design)	Feb. 12, 1861.
6	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (B, design)	Feb. 12, 1861.
7	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (C, design)	Feb. 12, 1861.
8	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (D, design)	Feb. 12, 1861.
9	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (E, design)	Feb. 12, 1861.
10	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (F, design)	Feb. 12, 1861
11	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (G, design)	Feb. 12, 1861.
12	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (H, design)	Feb. 12, 1861.
13	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (I, design)	Feb. 12, 1861.
14	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (J, design)	Feb. 12, 1861.
15	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (K, design)	Feb. 12, 1861.
16	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (L, design)	Feb. 12, 1861.
17	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (M, design)	Feb. 12, 1861.
18	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (N, design)	Feb. 12, 1861.
19	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (O, design)	Feb. 12, 1861.
20	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Design for carpets (P, design)	Feb. 12, 1861.
43	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
44	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
45	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
46	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
47	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
48	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
49	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
50	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
51	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
52	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
53	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet (Design)	May 7, 1861.
124	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
125	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
126	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
127	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
128	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
129	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
130	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
131	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
132	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.
133	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y	Carpet patterns (Design)	Nov. 19, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
134	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y.	Carpet patterns (Design)	Nov. 19, 1861.
135	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y.	Carpet patterns (Design)	Nov. 19, 1861.
136	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y.	Carpet patterns (Design)	Nov. 19, 1861.
137	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y.	Carpet patterns (Design)	Nov. 19, 1861.
138	Thompson, Henry G., assignor to Hartford Carpet Company.	New York, N. Y.	Carpet patterns (Design)	Nov. 19, 1861.
	Thompson, Jeremiah, and John A. Parlett. (*See* Parlett & Thompson.)			
	Thompson, John, *et al.* (*See* Warren, Sylvester W., ass'r.)			
2008	Thompson, John	Clifton, N. Y.	Machine for boring wagon hubs	Aug. 6, 1861.
2610	Thompson, John A.	Cayuga, N. Y.	Railroad car ventilators	Oct. 29, 1861.
	Thoonburgh, E. P., and William Stacey. (*See* Fitts, R. B., assignor.)			
90	Thornton, William McK	Niles, Mich.	Machine for creasing and finishing leather straps	Jan. 8, 1861.
	Throp, John A., and John Cox. (*See* Cox & Throp.)			
	Thurber, G., J. Gorham, and L. Dexter, jr. (*See* Gorham, Thurber, & Dexter. Design.)			
	Thurber, G., J. Gorham, and L. Dexter, jr. (*See* Gorham, Thurber, & Dexter.)			
	Thurber, G., J. Gorham, and L. Dexter, jr. (*See* Gorham, Thurber, & Dexter.)			
	Tibballs, Vincent, Shirk & Co. (*See* Vedder, N. S., ass'r.)			
910	Tiberi, Joseph			
833	Tice, Isaac P	St. Louis, Mo.	Fire grates	April 2, 1861.
2714	Tice, Isaac P	Baltimore, Md.	Machine for turning oval forms	Mar. 26, 1861.
577	Tiffany, George S., and H. C. Ingraham, assignors to George S. Tiffany	New York, N. Y. Palmyra, Mich.	Projectile for rifled ordnance Tile machine	Nov. 12, 1861. Feb. 26, 1861.
934	Tiffany, Joseph C., and Garet S. Heermance	Tecumseh, Mich. New York, N. Y.	Tile machine	Feb. 26, 1861.
69	Tiffany, Joseph C	Hudson, N. Y. New York, N. Y.	Means of promoting combustion in the furnaces of steam boilers. Means of promoting combustion in the furnaces of steam boilers. (Reissue.)	April 2, 1861. April 16, 1861.
2904	Tilley, John			
1089	Tilliers, Louis	West Troy, N. Y.	Machines for chamfering barrels	Dec. 10, 1861.
2108	Tilliers, Louis	Mott Haven, N. Y.	Vise	April 16, 1861.
335	Tinker, J. B.	New York, N. Y.	Motive power	Aug. 20, 1861.
	Tisdale, George W., *et al.* (*See* Knapp, A. H., assignor.)	Plymouth, N. Y.	Harvesters	Feb. 5, 1861.
	Tisdale, George W., *et al.* (*See* Knapp, A. H., assignor.)			
1316	Titterton, Charles	Rohampton, Eng.	Preparation of oxide of zinc for a paint. (Patented in England, November 4, 1856.)	May 14, 1861.
	Tobey, Samuel B. (*See* Greene, John F., assignor.)			
	Tobey, Samuel B. (*See* Greene, John F., assignor.)			
	Tolbert, John, *et al.* (*See* Sulenberger, W. H., assignor.)			
1210	Tolley, James M.			
834	Tompkins, Abram G	Big Lick, Va.	Washing machine	April 30, 1861.
	Tompkins, D. F., and Wm. M. Van Wagenen. (*See* Van Wagenen, Wm. M., assignor.)	New York, N. Y.	Screw propeller	Mar. 26, 1861.

1436	Tomlinson, Joseph	Putnam, Iowa	Suspension bridges	May 28, 1861.
632	Toop, Charles E.	New York, N. Y	Washing machine	Mar. 5, 1861.
2905	Toothill, John and William	Wallingford, Conn	Portable cooking apparatus	Dec. 10, 1861.
492	Topham, W. H	New Bedford, Mass.	Lamps	Feb. 19, 1861.
	Topliff, J. M., and J. W. Graham. (See Graham & Topliff.)			
493	Torrey, E. P	New York, N. Y	Ice-cream freezers	Feb. 19, 1861.
494	Totman, J. H	Pittsburg, N. Y	Method of hanging and securing reciprocating mill saws	Feb. 19, 1861.
	Tower, Levi L., *et al.* (See Stevens, Edgar M., assignor.)			
67	Tower, Levi L., assignor to Cutter, Tower & Co	Boston, Mass	Trade-mark (Design)	June 11, 1861.
1486	Towers, William H	New York, N. Y	Bootjack	June 4, 1861.
2498	Towers, William H., assignor to W. S. Bard	New York, N. Y	Broom handles	Oct. 15, 1861.
2682	Towers, William H., assignor to Winfield S. Bard	New York, N. Y	Broom	Nov. 5, 1861.
1153	Towle, Hamilton E	Exeter, N. H	Apparatus for ascertaining the curvatures of the keels or bottoms of vessels.	April 23, 1861.
2214	Towle, Hamilton E	Exeter, N. H	Machine for drawing bolts and spikes	Sept. 3, 1861.
	Towle, R. W., and E. P. Barton. (See Barton & Towle.)			
	Town, Wm. J., *et al.* (See Magee, John, assignor.)			
	Townsend, E., *et al.* (See Shaw, Philander, assignor.)			
2762	Townsend E. C., assignor to Smith & Browner	New York, N. Y	Neck ties	Nov. 19, 1861.
264	Townsend, Frederick	Albany, N. Y	Breech-loading fire-arms	Jan. 29, 1861.
	Towsley, L. D., *et al.* (See Evans, O. C., assignor.)			
	Towsley, L. D. (See Matteson, Elisha, assignor.)			
265	Traber, A. Renaud	St. Martinsville, La	Table fan	Jan. 29, 1861.
1538	Trageser, John	New York, N. Y	Apparatus for evaporating liquids	June 11, 1861.
2963	Trageser, John	New York, N. Y	Beer coolers	Dec. 17, 1861.
1090	Traxler, Franklin	Salem, Mich	Ploughs	April 16, 1861.
266	Treadwell, John G	Albany, N. Y	Cooking stoves	Jan. 29, 1861.
1154	Treadwell, John G	Albany, N. Y	Coal scuttle	April 23, 1861.
1253	Treadwell, J. G., and Wm. Hailes	Albany, N. Y	Stoves	May 7, 1861.
	Tredwell, Alfred M. (See Pell, Ogden P., assignor.)			
1539	Trego, A. H	Lambertville, N. J	Car coupling	June 11, 1861.
1797	Trego, A. H	Lambertville, N. J	Apparatus for pulleying horses	July 9, 1861.
336	Tribby, Charles	Winchester, Va	Watchmakers' lathes	Feb. 5, 1861.
835	Trimble, Mathew	Princeton, Ill	Corn shellers	Mar. 26, 1861.
267	Trittin, Emil	Philadelphia, Pa	Lamps	Jan. 29, 1861.
2855	Trittin, Emil	Philadelphia, Pa	Lamps	Dec. 3, 1861.
	Trowbridge, J. H., and S. W. Cox. (See Cox & Trowbridge.)			
1091	Trowbridge, William P	Washington, D. C	Specimen cup for deep-sea sounding	April 16, 1861.
1667	Trowbridge, Wm. F., assignor to F. Brigham & Co	Feltonville, Mass	Machine for skiving boot and shoe soles	June 25, 1861.
2964	Truair, O. M	Mount Morris, N. Y	Machine for sizing broom corn	Dec. 17, 1861.
	Truxal, Wm., and David Dougal. (See Dougal & Truxal.)			
112	Tucker, Hiram	Troy, N. Y.	Spring bed bottoms (Reissue.)	Nov. 26, 1861.
2813	Tucker, Sidney D., assignor to Calvin S. Sill	Troy, N. Y	Cording guides for sewing machines	Nov. 26, 1861.
	Tufts, A., and H. Curtis. (See Curtis & Tufts.)			
1437	Tufts, Otis	Boston, Mass	Elevators	May 28, 1861.
2403	Tufts, Otis	Boston, Mass	Railroad wheels and axles for running on different gauged tracks.	Oct. 1, 1861.
1798	Tupper, A. K	Pontiac, Mich	Gas retorts	July 9, 1861.
2917	Tupper, A. K., assignor to self, Joseph E. Tupper, and Jno. W. Green	Pontiac, Mich	Gas retorts	Dec. 10, 1861.
751	Tupper, Horace	Buffalo, N. Y	Fare boxes for railroad cars, &c	Mar. 19, 1861.
911	Turner, Alfred R	Malden, Mass	Apparatus for trimming wicks	April 2, 1861.
1013	Turner, G. B., and James A. Vaugh	Cuyahoga Falls, Ohio	Grain separators	April 9, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1587	Turner, Greanleaf L	New York, N. Y	Car spring	June 18, 1861.
678	Turner, J. B	Jacksonville, Ill	Cultivators	Mar. 12, 1861.
2856	Turner, J. B	Jacksonville, Ill	Cultivators	Dec. 3, 1861.
2215	Turner, James	Chicago, Ill	Apparatus for rendering lard and tallow	Sept. 3, 1861.
2965	Turner, James	Chicago, Ill	Process of rendering lard and tallow	Dec. 17, 1861.
2404	Turner, R G, and S. B. Robinson	East Dedham, Mass	Machinery for washing wool	Oct. 1, 1861.
515	Turner, Wm., assignor to Joseph Y. Norton and J. Philips		Lubricating compound	Feb. 19, 1861.
1814	Turrell, George B	St. Louis, Mo	Beer coolers	July 16, 1861.
2715	Tustin, John	Petaluma, Cal	Reaping machines	Nov. 12, 1861.
414	Tuttle, Ebenezer	Canaan, Me	Water wheels	Feb. 12, 1861.
1724	Tuttle, Edward A	Brooklyn, N. Y	Fireplace register	July 2, 1861.
130	Tuttle, Edward A	Brooklyn, N. Y	Registers and ventilators (Reissue.)	Nov. 12, 1861.
2052	Twambly, Samuel G	Saco, Maine	Chucks for lathes	Aug. 13, 1861.
3014	Twining, Alexander C	New Haven, Conn	Apparatus for cooling and freezing	Dec. 24, 1861.
	Twombly, Alexander H. (*See* Chamberlain, D. H., ass'r.)			
337	Tyler, Levi S	Linesville, Pa	Rotary harrows	Feb. 5, 1861.
	Tyrell, Aaron W., *et al.* (*See* Sprague, Jos. W., assignor.)			
1487	Tyson, Isaac, jr	Baltimore, Md	Article of paint	June 4, 1861.
113	Uhlinger, William P	Philadelphia, Pa	School desk (Design.)	Oct. 8, 1861.
	Underhill, Wm. Scott, and John and Henry Bruckshaw. (*See* Bruckshaw & Underhill.)			
1386	Upton, Benjamin	Elyria, Ohio	Upsetting fire	May 21, 1861.
338	Upton, James S	Battle Creek, Mich	Horse power	Feb. 5, 1861.
101	Upton, James S	Battle Creek, Mich	Horse power (Reissue.)	July 2, 1861.
	Ustick, Steph., and Chas. Shivers. (*See* Shivers & Ustick.)			
415	Utley, Gabriel	Chapel Hill, N. C	Ploughs	Mar. 12, 1861.
2170	Valance, J. W., and Hiram Littlejohn, assignors to Isaac W. and George W. Valance.	Lansingburg, N. Y	Machine for riveting hinges	Aug. 27, 1861.
912	Valetton, Louis Dominique	New York, N. Y	Machines for making fringe	April 2, 1861.
1903	Van Allen, C. D	Syracuse, N. Y	Churns	July 23, 1861.
3015	Van Anden, Wm	Poughkeepsie, N. Y	Harvesters	Dec. 24, 1861.
2716	Van Brunt, G. W	Rolling Prairie, Wis	Seeding machines	Nov. 12, 1861.
2219	Van Camp, Gilbert, assignor to self and Jasper Berger	Somerset county, N. Y	Pumps	Sept. 17, 1861.
353	Vance, Samuel B. H., assignor to Mitchell, Vance & Co	New York, N. Y	Electrical apparatus for lighting gas	Feb. 5, 1861.
318	Vance, Samuel B. H	New York, N. Y	Electrical apparatus for lighting gas, (ad'l improvement.)	Mar. 12, 1861.
644	Vanderburgh, Geo. E., assignor to Liquid Quartz Co	New York, N. Y	Silicated soaps	Mar. 5, 1861.
2456	Van Deventer, Nelson	New Albany, Ind	Excavators for water-courses having currents	Oct. 8, 1861.
2216	Van Dewater, Henry	Weedsport, N. Y	Water wheel	Sept. 3, 1861.
	Van Duzor, William, and Daniel E. Barker. (*See* Sprague, Welcome, assignor.)			
2109	Van Dyk, Solomon and Nicholas	St. Louis, Mo	Coffee roaster	Aug. 20, 1861.
	Van Gieson, W. H., and E. Brown. (*See* Brown & Van Gieson.)			
2611	Van Horn, Chester	Springfield, Mass	Mode of lowering piers into the water	Oct. 29, 1861.
91	Van Hœsen, Pierre D	New York, N. Y	Sadiron	Jan. 8, 1861.

2405	Van Hœsen, P. D	New York, N. Y	Wringing machines	Oct. 1, 1861.
1540	Van Name, C	Binghampton, N. Y	Stanchion for canal boats	June 11, 1861.
2268	Van Order, Abram	Ithaca, N. Y	Construction of canal boats	Sept. 10, 1861.
2269	Van Orman, O. O., assignor to self and H. F. Palmer	Harrisville, Ohio	Railroad car wheels	Sept. 10, 1861.
1725	Vantuyl, Andrew J	Hector, N. Y	Grain separators	July 2, 1861.
1103	Van Wagenen, William M., assignor to self and Daniel F. Tompkins.	Newark, N. J	Boat-detaching apparatus	April 16, 1861.
1799	Vauclain, James L	Lafayette, Ind	Car axle box	July 9, 1861.
2053	Vauclain, James L	Lafayette, Ind	Locomotive fire boxes	Aug. 13, 1861.
2110	Vauclain, James L	Lafayette, Ind	Locomotive smoke-stacks	Aug. 20, 1861.
358	Vaughn, Ebenezer, by J. B. Vaughn, administrator	Marion, N. Y	Gauges for constructing the mould-boards of ploughs	Feb. 5, 1861.
15	Vaughn, James A	Cuyahoga Falls, Ohio	Grain separators (Reissue.)	Jan. 8, 1861.
	Vaughn, Jas A., and G. B. Turner, (*See* Turner & Vaughn.)			
90	Vaughn, James A	Cuyahoga Falls, Ohio	Grain separators (Reissue.)	June 11, 1861.
91	Vaughn, James A	Cuyahoga Falls, Ohio	Grain separators (Division of reissue.)	June 11, 1861.
2547	Vautier, A. C	Paris, France	Mode of extracting filamentous matter similar to silk, cotton, and the like, from the bark and leaves of various trees.	Oct. 22, 1861.
913	Veber, William F	Bowling Green, Ohio	Cultivators	April 2, 1861.
24	Vedder, N. S., and E. Ripley, assignors to N. S. Vedder	Troy, N. Y	Stoves (Design.)	Mar. 5, 1861.
23	Vedder, N. S.	Troy, N. Y	Cooking stove (Design.)	Mar. 5, 1861.
32	Vedder, N. S., assignor to Ingraham & Phillips	Troy, N. Y	Cooking stove (Design.)	April 2, 1861.
66	Vedder, N. S., assignor to Vincent, Tibballs, Shirk & Co	Troy, N. Y	Cook stoves (Design.)	May 28, 1861.
55	Veerkamp, F., and F. Leopold, assignors to R. A. Maxwell.	Philadelphia, Pa	Gymnastic apparatus	Jan. 1, 1861.
64	Vernam, John Sands	Rochester, N. Y	Corrugating iron	Jan. 1, 1861.
1211	Viall, Daniel H	Schaghticoke, N. Y	Grain cradles	April 30, 1861.
1926	Vidal, Ulysses B	Philadelphia, Pa	Lamps	July 30, 1861.
	Viele, J. J., and James Pine. (*See* Pine, James, assignor.)			
	Viele, J. J., and James Pine. (*See* Pine, James, assignor.)			
	Viele, J. J. (*See* Pine, James, assignor.)			
	Vincent & Osborn. (*See* Mann, Robert J., assignor.)			
	Vincent, Tibballs, Shirk & Co. (*See* Vedder, N. S., ass'r.)		(Design)	
2548	Vincent, Wm. B., and Chauncey B. Northup	New York, N. Y	Spring rocking horses	Oct. 22, 1861.
1842	Virdin, William W	Baltimore, Md	Boat and ferry bridge	July 16, 1861.
2556	Vittum, Francis J., and Edgar M. Stevens, assignors to Alfred B. Ely	Boston, Mass. / Medford, Mass	Breech-loading fire-arms	Oct. 22, 1861.
2717	Von Liebig, Justus	Munich, Bavaria	Electro-plating with copper and other metals the silvered surfaces of mirrors, and other articles for protecting the same. (Patented in Bavaria and England April 28, 1858.)	Nov. 12, 1861.
1014	Voorhis, Thos G., and Wm. B. Whiteman	New York, N. Y	Musquito net	April 9, 1861.
	Vosburgh, Jacob H., and John Warner. (*See* Warner & Vosburgh.)			
89	Vose, Richard	New York, N. Y	Car springs (Reissue.)	June 4, 1861.
113	Vose, *Richard*	New York, N. Y	Car springs (Reissue.)	Aug. 6, 1861.
41	Vose, William T	Newtonville, Mass	Portable pumps (Reissue.)	Feb. 26, 1861.
1387	Vowles, Joseph	New Hudson, Mich	Cultivators	May 21, 1861.
193	Vroom, G. B., and Sol. Kinzee	Jersey City, N. J / Brooklyn, N. Y	Machine for hoisting barrels and placing them in tiers or rows	Jan. 22, 1861.
2667	Wadleigh, Thomas J	Sutton, N. H	Pumps	Nov. 5, 1861.
1927	Wadleigh, W., and N. F. Morrill	Sanbornton Bridge, N. Y	Machine for turning tapering forms	July 30, 1861.
833	Wadsworth, Arthur	New York, N. Y	Method of operating the second-hand in stop-watches	Mar. 25, 1861.
28	Wagener, David S	Penn Yan, N. Y	Threshing machines (Reissue.)	Jan. 29, 1861.
31	Wagener, David S	Penn Yan, N. Y	Flouring mills (Reissue.)	Feb. 5, 1861.
416	Wagener, David S	Penn Yan, N. Y	Machines for hulling and cleaning clover-seed	Feb. 12, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
1254	Wagner, Samuel	York, Pa	Artificial honey-comb	May 7, 1861.
1155	Waite, Daniel B	Providence, R. I	Making watch and locket rims	April 23, 1861.
1901	Waite, Daniel B	Providence, R. I	Making watch and locket rims	July 23, 1861.
	Wakefield, Cyrus. (*See* Mayall, Thos. J., assignor.)			
837	Wakeman, Boswell	Port Deposit, Md	Presses	Mar. 26, 1861.
2270	Walbridge, A. S	Malone, N. Y	Cut-off apparatus for steam-engines	Sept. 10, 1861.
2111	Walch, John	New York, N. Y	Sink	Aug. 20, 1861.
356	Walcott, H. S., assignor to Samuel Eter	East Boston, Mass	Carpet tack driver	Feb. 5, 1861.
	Walker, E. C. R., and F. Huckins. (*See* Huckins & Walker.)			
1255	Walker, F. R	Waterford, Pa	Bee hives	May 7, 1861.
680	Walker, Geo. A	Annville, Pa	Ploughs	Mar. 12, 1861.
633	Walker, George R	Washington, D. C	Corn-huskers	Mar. 5, 1861.
2054	Walker, Geo. W	Boston, Mass	Ash pail	Aug. 13, 1861.
	Walker, P. G., *et al.* (*See* Denning & Walker, assignors.)			
1015	Walker, Samuel H. & M. C	Boston, Mass	Gas retorts	April 9, 1861.
	Wallace, Henry E. (*See* Gould, John Henry, assignor.)			
	Walter, W. L., and John Fowler. (*See* Fowler & Walter.)			
339	Walton, Frederick	Haughton Dale, Denton, England	Apparatus for the manufacture of varnish. (Patented in England January 27, 1860.)	Feb. 5, 1861.
2718	Walton, Frederick	Haughton Dale, Denton, England	Mode of treating drying oils for manufacture of varnish and other purposes. (Patented in England Jan. 27, 1860.)	Nov. 12, 1861.
	Wandel, Hiram, *et al.* (*See* Louis, Peter, assignor.)			
2455	Wappich, Maximilian	Sacramento, Cal	Marine propeller	Oct. 8, 1861.
2755	Ward, Charles	Salem, Mass	Mode of securing knobs to doors, drawers, &c	Nov. 19, 1861.
	Ward, D. T., *et al.* (*See* Keese, Ward & Wilkinson.)			
	Ward, John, jr. (*See* Johnson, Josee, assignor.)			
	Ward, John, jr. (*See* Johnson, Josee, assignor.)			
2612	Ward, Moses N	Old Town, Maine	Tobacco pipes	Oct. 29, 1861.
	Wardwell, Isaac, *et al.* (*See* Warren, Scofield, Wardwell & Jones.)			
2113	Waring, Jno. B., jr	South Manchester, Conn	Machines for sorting thread	Aug. 20, 1861.
1928	Warner, Alexander	Brooklyn, N. Y	Washing knuckle	July 30, 1861.
39	Warner, H. W	Greenfield, Mass	Skates	Jan. 1, 1861.
2112	Warner, John, and Jacob H. Vosburgh	Galesburg, Mich	Stump machine	Aug. 20, 1861.
194	Warner, Joseph	New Britain, Conn	Kettle handle	Jan. 22, 1861.
2271	Warner, S. R	New Haven, Conn	Pipe joint	Sept. 10, 1861.
681	Warriner, P. P	Holland Patent, N. Y	Table	Mar. 12, 1861.
	Warren, Grant & Co. (*See* Sweetland Geo., assignor.)			
2217	Warren, Henry	Goshen, Ind	Soap	Sept. 3, 1861.
4	Warren, Joseph D., Jas. B. Scofield, Isaac Wardwell, and Augustus T. Jones.	Stamford, Conn	Stove (Reissue.)	Feb. 5, 1861.
1233	Warren, Sylvester W., assignor to self, T. C. Banks, and Jno. Thompson.	Brooklyn, N. Y	High and low water indicator for steam boilers	April 30, 1861.
357	Washburn, Ichabod, assignor to self and P. L. Moen	Worcester, Mass	Hardening and tempering wire	Feb. 5, 1861.
	Washburn & Moen. (*See* Frost, W. E., assignor.)			
1726	Washburn, William L	Springfield, Mass	Ventilator	July 2, 1861.

	Waterbury Brass Company. (*See* Seymour, Frederick J., assignor.)			
2719	Waterbury, Enos	Stamford, Conn	Automatic gates	Nov. 12, 1861.
2171	Waterman, C. C. P., assignor to J. W. Jarvis & Co	Sandwich, Mass	Machines for grinding glass shades	Aug. 27, 1861.
107	Waters, Elisha	Troy, N. Y	Making paper boxes (Reissue.)	July 9, 1861.
	Waters, Stimpson, Shepherd & Keene. (*See* Jenkins, J., assignor.)			
340	Watkins, Henry T	Anderson, Ind	Cider mills	Mar. 5, 1861.
1904	Watkins, Jno. De L., and R. Bryson	Schenectady, N. Y	Mowing machines	July 23, 1861.
109	Watson, Alexander T	Castleton, N. Y	Railroad car spring (Reissue)	July 16, 1861.
	Watson, Jos., *et al.* (*See* Adams, Albert S., assignor.)			
1317	Watson, Robert	Chatham, Ill	Permanent railways	May 14, 1861.
2499	Watson, William	Tonica, Ill	Railroad rails	Oct. 15, 1861.
2613	Watson, William Medd	Tonica, Ill	Grain separator	Oct. 29, 1861.
2614	Watson, William Medd	Tonica, Ill	Screens of winnowing machines	Oct. 29, 1861.
2668	Watson, William Medd	Tonica, Ill	Mould-board blanks	Nov. 5, 1861.
914	Watson, William S	Madison, Ind	Brick machines	April 2, 1861.
1256	Watters, Walter E	East Bend, Ky	Pumps	May 7, 1861.
1092	Wattles, Otis B	Mooresboro', N. C	Straw cutters	April 16, 1861.
2453	Way, John Thomas	London, England	Electric light. (Patented in England April 23, 1857)	Oct. 8, 1861.
2454	Way, John Thomas	London, England	Electric light. (Patented in England May 4, 1857)	Oct. 8, 1861.
1541	Weather, James	Greensburg, Ind	Heading bolts	June 11, 1861.
138	Weaver, H. B., assignor to self and W. H. Strong	South Windham, Conn	Machines for dressing millstones	Jan. 15, 1861.
1257	Weaver, John H	Baltimore, Md	Burial cases	May 7, 1861.
40	Weber, L. C. T	Rochester, N. Y	Breech-loading ordnance	Jan. 1, 1861.
2009	Webster, Alonzo	White River Junction, Vt	Sowing machines	Aug. 6, 1861.
1600	Webster, Joel, assignor to self and G. C. & T. H. Hotchkiss	Brooklyn, N. Y	Journal box	June 18, 1861.
	Wedge, F., and J. G. Manley. (*See* Manley & Wedge)			
41	Weeden, Stephen R	Providence, R. I	Lamp and candle wicks	Jan. 1, 1861.
	Weeks, A., and E. S. Dawson. (*See* Dawson & Weeks.)			
279	Weight, Enoch, assignor to self, N. G. Simonds, and J. B. Clapp	Charlestown, Mass	Railroad chairs	Jan. 29, 1861.
851	Weiland, G., assignor to self and Francis Fisher	Buffalo, N. Y	Straw-carrier for threshing machines	Mar. 26, 1861.
	Weiler, P. W., *et al.* (*See* Muller, Julius J., assignor.)			
	Weiler, Peter. (*See* Degener, Frederick Otto, assignor.)			
268	Weimer, Peter L	Lebanon, Pa	Steam-engines	Jan. 29, 1861.
578	Weimer, P. L., assignor to self and J. A. & L. E. Weimer	Lebanon, Pa	Registering apparatus for steam-engines	Feb. 26, 1861.
1438	Weir, William S., jr	Monmouth, Ill	Cultivators	May 28, 1861.
2906	Weiss, F. W	Mt. Vernon, N. Y	Military cloaks	Dec. 10, 1861.
2910	Weissenborn, Edward	New York, N. Y	Method of making iron chains	Aug. 6, 1861.
2907	Weissenborn, Henry	Newark, N. J	Apparatus for collecting zinc from waste gases of furnaces	Dec. 10, 1861.
2615	Weitling, William	New York, N. Y	Sewing machines	Oct. 29, 1861.
1318	Weitman, C	Independence, Iowa	Broom	May 14, 1861.
2763	Weitman, Christian, assignor to self, H. W. Glynn, and A. Hageman.	Independence, Iowa	Device for shrinking tire	Nov. 19, 1861.
1588	Weitz, V	Cleveland, Ohio	Pumps	June 18, 1861.
2406	Welch, Rodney	Worth, Ill	Corn planters	Oct. 1, 1861.
	Weld, De Forrest, *et al.* (*See* Bullock, Chester, assignor.)			
2908	Welling, J. J	Cedar Falls, N. Y	Device for weaning calves	Dec. 10, 1861.
2909	Wellington, A. H	Woodstock, Vt	Saw gummer	Dec. 10, 1861.
	Wellington, C. A., *et al.* (*See* Pruden, D. R., assignor.)			
3016	Wells, John H	Brooklyn, N. Y	Automatic primer for fire-arms	Dec. 24, 1861.
	Wells & Littlefield. (*See* Langdon, L. W., assignor.)			

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
752	Wells, Moses D	Morgantown, Va	Churn dasher	Mar. 19, 1861.
	Wells, Smith & Francis. (*See* Scypes & Smith, assignors.)			
	Wells, Smith & Francis. (*See* Scypes & Smith, assignors.)			
	Wells, Smith & Francis. (*See* Sailor, S. H., assignor)		(Design)	
	Wells, Smith & Francis. (*See* Sailor, S. H., assignor)		(Design)	
	Wells, Thos F., and George A. Phillips. (*See* Seely, Edgar D., assignor.)			
1915	Wells, Wm., assignor to self, Thos. C. McDowell, and A. B. Little.	Harrisburg, Pa	Cot or bedstead	July 23, 1861.
1093	Wenisch, J., and R. B. Berky	Tompkinsville, N. Y. New York, N. Y	Tablets	April 16, 1861.
269	Wesolowski, Maurice	New York, N. Y	Apparatus for obtaining light by frictional electricity	Jan. 29, 1861.
838	Wesson, Phineas D	Providence, R. I	Steam trap	Mar. 26, 1861.
270	West, Hiram E	Attleboro', Mass	Machines for pressing bonnets	Jan. 29, 1861.
2557	West, John G, jr, assignor to Jane H. West and M. C. Boyer	Norristown, Pa	Valves and valve-motion for steam-engines	Oct. 22, 1861.
2558	Westland, Charles S., assignor to Adin Alexander and Wm. J Innis.	Providence, R. I	Lubricating cups	Oct. 22, 1861.
1542	Weston, E. R	East Corinth, Me	Process of converting iron into steel by cementation	June 11, 1861.
495	Wethered, James S., and Selim E. Woodworth	San Francisco, Cal	Process for treating the ores of the precious metals	Feb. 19, 1861.
	Wethered, James S. (*See* Woodworth, Selim E., assignor.)			
	Wetmore & Lathrop. (*See* Quann, William, assignor.)			
634	Wetmore, N. D	Cleveland, Ohio	Mode of preserving butter	Mar. 5, 1861.
1929	Weymouth, A. L	Boston, Mass	Bridle bit	July 30, 1861.
38	Wharton, William, jr	Philadelphia, Pa	Transferring cars from one track to another...(Reissue)	Feb. 19, 1861.
682	Wheeler, Cyrenus, jr	Poplar Ridge, N. Y	Reaping and mowing machines	Mar. 12, 1861.
	Wheeler, Cyrenus, jr. (*See* Osgood, Robert T., assignor. Reissue.)			
	Wheeler, Cyrenus, jr. (*See* Osgood, Robert T., assignor. Reissue.)			
	Wheeler, Cyrenus, jr. (*See* Osgood, Robert T., assignor. Reissue)			
	Wheeler, C. A., and A. Forrist. (*See* Forrist & Wheeler.)			
271	Wheeler, Elisha H	Keokuk, Iowa	Harvesting machines	Jan. 29, 1861.
211	Wheeler, Grant J., G. W. Donnell, and William Sharp, assignors to James C. Beach.	Bloomfield, N. J	Paper-making machinery	Jan. 22, 1861.
195	Wheeler, Sarah Jane	New Britain, Conn	Curry combs	Jan. 22, 1861.
	Wheeler, Sidney S. (*See* Smith, Russell, assignor.)			
	Wheeler & Wilson Manufacturing Company. (*See* Marsh, Clark, assignor)			
1589	Wheelock, Jerome	Worcester, Mass	Rotary valve for steam-engines	June 18, 1861.
2756	Whetsone, John L	Cincinnati, Ohio	Locomotives	Nov. 19, 1861.
1845	Whipple, J. F., assignor to Seamless Clothing Manufacturing Company.	New York, N. Y	Military caps	July 16, 1861.
	Whipple, Jona E. (*See* Hutchison, James, assignor.)			
1388	Whisler, Jacob S	Albany, Ill	Wagon brakes	May 21, 1861.

1590	Whitall, John M.	Philadelphia, Pa	Preserve jars	June 18, 1861.
1041	Whitcomb, J. O., assignor to self and Joseph Dodin	New York, N. Y	Hand hemmers for sewing	April 9, 1861.
1930	White, A.	Geneseo, Ill	Governor valves for steam-engines	July 30, 1861.
	White, C. H., and H. Lawrence. (*See* Lawrence & White.)			
	White, Edward, *et al.* (*See* Scripture, E. S., assignor.)			
196	White, H. S.	Newport, R. I	Newspaper files	Jan. 22, 1861.
915	White, H. S.	Newport, R. I	Newspaper files	April 2, 1861.
2720	White, James	Cleveland, Ohio	Camp bedstead	Nov. 12, 1861.
2801	White, Rollin	Davenport, Iowa	Cartridges	Nov. 26, 1861.
1094	White, Thomas W	Milledgeville, Ga	Seed planters	April 16, 1861.
2218	Whitehill, Hugh	Newburg, N. Y.	Machines for dressing yarn	Sept. 3, 1861.
98	Whitely, William N., jr	Springfield, Ohio	Harvesting machines. (Division of Reissue)	June 25, 1861.
	Whiteman, Cox & Cox. (*See* Smith & Brown, assignors.)			
341	Whitenack, Thomas S	Easton, Pa	Rakes for harvesters	Feb. 5, 1861.
1212	Whitenack, Thomas S	Easton, Pa	Harvesting machines	April 16, 1861.
2114	Whitford, George	Providence, R. I	Washboard	Aug. 20, 1861.
	Whiting & Gabrion. (*See* Gabrion & Whiting.)			
	Whiting, R., and William Braidwood. (*See* Braidwood & Whiting.)			
56	Whitley, John H., assignor to self and C. S. Carmichael	Oswego, Ill	Apparatus for enlarging photographic pictures	Jan. 1, 1861.
496	Whitmore, Seth H.	Cincinnati, Ohio	Steam-engines	Feb. 19, 1861.
916	Whitmore, Seth H.	Cincinnati, Ohio	Steam-engines	April 2, 1861.
	Whitney & Brown. (*See* Reynolds, George S., assignor.)			
1213	Whitney, Hugh H.	Waterford, Pa	Bee hives	April 16, 1861.
1655	Whitney, James A.	Maryland, N. Y	Brakes for vehicles	June 25, 1861.
42	Whitney, S. A.	Glassborough, N. J	Glass stopper for bottles	Jan. 1, 1861.
2857	Whitney, Washington	Baldwinsville, Mass	Clothes wringers	Dec. 3, 1861.
2417	Whittam, Robert, assignor to Joseph Lockett and Robert Leake, jr.	Accrington, England	Pantograph machines	Oct. 1, 1861.
	Whittemore, H. S. and D. H. (*See* Frost, Henry A., ass'r.)			
917	Whittemore, John R.	Chicopee Falls, Mass	Vegetable cutter	April 2, 1861.
1932	Whittemore, John R.	Chicopee Falls, Mass	Adjustable knife of feed cutters	July 30, 1861.
2115	Whittemore, John R.	Chicopee Falls, Mass	Straw cutters	Aug. 20, 1861.
497	Whitten, John	Boston, Mass.	Fracture apparatus	Feb. 19, 1861.
918	Whittier, Joseph G.	Attica, Ind	Boot crimp	April 2, 1861.
2802	Whittier, Joseph W	Cambridge, Mass	Fastening window-blinds	Nov. 26, 1861.
	Whitworth, T. S., and J. Higgins. (*See* Higgins & Whitworth.)			
2616	Whytock, Andrew	London, England	Metallic sheathing. (Patented in England Oct. 11, 1859)	Oct. 29, 1861.
1656	Wickersham, W. F	Springfield, Ill	Excavating machine	June 25, 1861.
2918	Widmer, Jacob, assignor to H. B. Bigelow	New Haven, Conn	Machines for cutting roots	Dec. 10, 1861.
1488	Wiggin, George B., and John W. Hoard	Providence, R. I	Steam trap	June 4, 1861.
1800	Wightman, Jos. C	Boston, Mass	Gas cocks	July 9, 1861.
417	Wilcox, Dutee	Providence, R. I	Sleeve fasteners	Feb. 5, 1861.
2219	Wilcox, James A	Rocky Hill, Conn	Pipe wrench	Sept. 3, 1861.
	Wilcox, Jedediah, and H. H. Miller. (*See* Mann, Bela A., assignor.)			
919	Wilcox, Martin	Middlebury, Ohio	Steam pump	April 2, 1861.
920	Wilcox, Stephen, jr	Westerly, R. I	Hot air engines	April 2, 1861.
	Wilcox, William, & Co. (*See* Cooke, James C., assignor)			
	Wilder, J. C. (*See* Ames, Nathan, assignor.)			
1319	Wilder, M. G	Meriden, Conn	Sewing machines	May 14, 1861.
1657	Wilder, Milo D	Laporte, Ind	Water elevators for cattle	June 25, 1861.

List of patentees of inventions, designs, and reissues, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2162	Wilder, Milo D	Laporte, Ind	Water elevators	Aug. 27, 1861.
498	Wilder, R. A	Cressona, Pa	Machine for breaking coal	Feb. 19, 1861.
2803	Wiley, Andrew J	South Attleborough, Mass	Making "joint wire" or "stock" for jewelry	Nov. 26, 1861.
499	Wilford, Frederick	Eagle, Wis	Apparatus for walling wells, cisterns, &c., with grout	Feb. 19, 1861.
418	Wilkins, C. M	West Andover, Ohio	Upsetting fire	Feb. 12, 1861.
921	Wilkins, C. M	West Andover, Ohio	Cheese vat operator	April 2, 1861.
145	Wilkins, C. M	West Andover, Ohio	Cheese vats (Reissue)	Dec. 24, 1861.
43	Wilkinson, John	Baltimore, Md	Automatic brakes	Jan. 1, 1861.
131	Wilkinson, John	Baltimore, Md	Dumping wagon	Jan. 15, 1861.
	Wilkinson, J. G., *et al.* (*See* Keese, Ward & Wilkinson.)			
	Wilkinson, N. J., and T. Jacobs. (*See* Jacobs & Wilkinson.)			
	Wilkinson, Wm. A., and D. A. Danforth. (*See* Danforth & Wilkinson.)			
753	Wilcox, Charles H	New York, N. Y	Sewing machine needles	Mar. 19, 1861.
1727	Willett, Samuel A	Philadelphia, Pa	Heater and boiler	July 2, 1861.
2910	Willett, T. J	Nunda, N. Y	Pumps	Dec. 10, 1861.
197	Willey, Wm. C	Princeton, Ill	Corn planters	Jan. 22, 1861.
2368	Williams, C., and E. F. Falconnet	Nashville, Tenn	Bell piano	Sept. 24, 1861.
419	Williams, C. W	Boston, Mass	Sewing machines	Feb. 12, 1861.
1711	Williams, E. C., assignor to James Flanagan	Jersey City, N. J	Tent	July 2, 1861.
1389	Williams, Harrison G	Warren, R. I	Stop motion for drawing frames	May 21, 1861.
2804	Williams, Isaac F	New York, N. Y	Machine for applying flocks to felt-rubber goods	Nov. 26, 1861.
2418	Williams, Isaiah M., assignor to self and Wm. P. Wolf	Blanchester, Ohio	Mode of operating churns	Oct. 1, 1861.
	Williams, John, and G. W. Lawbaugh. (*See* Lawbaugh and Williams.)			
	Williams, S. G., *et al.* (*See* Seymour, Wm. H., assignor.)			
	Williams, S. G., *et al.* (*See* Palmer & Williams, assignors. Reissue.)			
	Williams, Samuel K. (*See* Carpenter, Lewis R.)			
	Williams, Samuel P., Jr. (*See* Miller, Wm., assignor.)			
2321	Williams, Samuel W	Centreville, N. Y	Ventilators for houses	Sept. 17, 1861.
645	Williams, Turner, assignor to self and David Heaton, 2d	Providence, R. I	Converting reciprocating into rotary motion. (Antedated Sept. 5, 1860.)	Mar. 5, 1861.
922	Williams, Turner	Providence, R. I	Means for avoiding the dead centres in cranks	April 2, 1861.
2723	Williams, Turner, assignor to self and David Heaton, 2d	Providence, R. I	Cranks for driving sewing machines and other machinery	Nov. 12, 1861.
44	Williams, William, assignor to self and Ric'd D. Goodwin	St. Louis, Mo	Floating mattress	Jan. 1, 1861.
500	Williams, William T	New York, N. Y	Animal traps	Feb. 19, 1861.
66	Williamson, George, assignor to L. S. Goble and H. E. Richards.	Newark, N. J	Veneer planer	Jan. 1, 1861.
1905	Williamson, M. F., and J. J. Swigert	Hyattsville, Ohio	Corn shellers and huskers	July 23, 1861.
839	Willis, Martha	Rochester, N. Y	Obstetrical bandages	Mar. 26, 1861.
1016	Willmot, George R	West Meriden, Conn	Head for screws and tacks	April 9, 1861.
1320	Wilmot, S. R	Brooklyn, N. Y	Basket for berries	May 14, 1861.
1543	Wilmot, S. R	Brooklyn, N. Y	Hoop skirts	June 11, 1861.
1489	Wilmot, W. S	New York, N. Y	Rakes for harvesters	June 4, 1861.

683	Willson, Ethan S	Saratoga Springs, N. Y	Safety ships	Mar. 12, 1861.
1931	Willson, Francis G	Ontario, Canada West	Hay rakes	July 30, 1861.
316	Willson, G. J., and D. H. Fox	Reading, Pa	Gas metres (Additional improvement)	Feb. 26, 1861.
840	Willson, T. H	Harrisburg, Pa	Blowers	Mar. 26, 1861.
501	Wilson, Charles	Brooklyn, N. Y	Tightening ropes on cotton bales	Feb. 19, 1861.
	Wilson, Charles	Springfield, Mass	Cutting stone (Extension)	Mar. 12, 1861.
2311	Wilson, Edward Brown, assignor to Wm. Butcher, jr	Westminster, Eng	Annealing and swaging castings	Sept. 17, 1861.
2764	Wilson, George F	Providence, R. I	Army cooking wagons	Nov. 19, 1861.
2519	Wilson, Horcules M	Newark, N. J	Operating window shutters	Oct. 22, 1861.
2866	Wilson, J. B., assignor to self and John M. Moore	Williamstown, N. J	Preserving vessels	Dec. 3, 1861.
852	Wilson, Joseph B., assignor to John F. Bodine	Williamstown, N. J	Stoppers for sealing cans and jars	Mar. 26, 1861.
1801	Wilson, J. B	Williamstown, N. J	Stoppers for preserving vessels	July 9, 1861.
	Wilson, James B. (*See* McNamee, James, assignor.)			
1321	Wilson, J. N	Mount Bethel, Pa	Washing machine	May 14, 1861.
3017	Wilson, John	Chicago, Ill	Manufacture of fibrous water-proof fabrics	Dec. 24, 1861.
	Wilson, J. W., and J. Mumford. (*See* Mumford & Wilson.)			
	Wilson, S. B. (*See* Cole, Isaac C., assignor.)			
	Wilson & Wheeler Manufacturing Co. (*See* Marsh, Clark, assignor.)			
	Wilson, Wm., and Jacob Diehl. (*See* Diehl & Wilson.)			
272	Winans, Ross & Thomas	Baltimore, Md	Anchor-well and anchor	Jan. 29, 1861.
342	Winans, Ross & Thomas	Baltimore, Md	Packing for stuffing boxes	Feb. 5, 1861.
841	Winans, Ross & Thomas	Baltimore, Md	Steering apparatus for navigable vessels	Mar. 26, 1861.
842	Winans, Ross & Thomas	Baltimore, Md	Stuffing boxes	Mar. 26, 1861.
2911	Winchell, U. B	Oak Hill, N. Y	Hold-back hooks	Dec. 10, 1861.
	Winchester, C. G. C. (*See* Fitts, Samuel L., assignor.)			
57	Winchester, G. K., assignor to New England Butt Co.)	Providence, R. I	Braiding machine	Jan. 1, 1861.
	Winchester, Gilman K., *et al.* (*See* Cady, Carpenter & Winchester.)			
1439	Wing, Charles P	Fayetteville, N. Y	Harvester	May 28, 1861.
	Winslow, John P	Troy, N. Y	Rolling and compressing puddler's balls	Dec. 11, 1861.
1017	Winsor, Joseph S	Providence, R. I	Machines for tentering and drying cloth	April 9, 1861.
2669	Winsor, William S	Port Orford, Oregon	Planing saws	Nov. 5, 1861.
1322	Winter, Henry	Albion Place, Hackney, England	Machine for weighing sacks. (Patented in England Sept. 25, 1859.)	May 14, 1861.
1095	Wirtz, S. M., and F. Swift	Hudson, N. Y	Grain separators	April 16, 1861.
566	Wise, Thomas	Boston, Mass	Stamp-head for quartz crushers	Feb. 26, 1861.
	Wolf, J. G. (*See* Long, Josiah, assignor.)			
132	Wolf, Lorenz	Hamburg, Mo	Ploughs	Jan. 15, 1861.
	Wolf, Wm. P. (*See* Williams, Isaiah M., assignor.)			
502	Wood, A. H	Boston, Mass	Gas burner regulator	Feb. 19, 1861.
1323	Wood, Charles B	New York, N. Y	Carriages	May 14, 1861.
46	Wood, Corbin O	Worcester, Mass	Breech-loading fire-arms	Jan. 1, 1861.
143	Wood, George, and John King, assignors to selves and Wm. Lawrence.	Philadelphia, Pa	Dredging crane (Reissue)	Dec. 17, 1861.
1324	Wood, George	Strasburg, Pa	Field bucket	May 14, 1861.
42	Wood, John M	Seneca, N. Y	Willow-peeler (Reissue)	Feb. 26, 1861.
2867	Wood, Joseph, assignor to self and Edward W. Serrell	Red Bank, N. J	Mode of oiling journals	Dec. 3, 1861.
3018	Wood, Joseph	Red Bank, N. J	Frogs for railroads	Dec. 24, 1861.
2858	Wood, W. A	Hoosick Falls, N. Y	Harvesters	Dec. 3, 1861.
2757	Wood, Walter A	Hoosick Falls, N. Y	Rakes for harvesters	Nov. 19, 1861.
1337	Wood, W. D., assignor to A. Wood	Wilmington, Del	Sheet iron	May 14, 1861.
751	Woodard, P. G	Waterford, Pa	Butter-worker	Mar. 19, 1861.

No.	Name of patentee.	Residence.	Invention or discovery.	Date.
2859	Woodbury, James A	Boston, Mass	Projectiles for smooth-bored ordnance	Dec. 3, 1861.
2318	Woodbury, Hiram, assignor to G. A. Prince and Thomas Stephenson.	Buffalo, N. Y	Swells for musical instruments	Sept. 17, 1861.
2805	Woodbury, Seth D	Lynn, Mass	Elastic carriage wheel	Nov. 26, 1861.
755	Woodbury, William	Gloucester, Mass	Spring-tackle for the sheets of fore-and-aft rigged vessels	Mar. 19, 1861.
	Woodward, Cox & McCord. (*See* McCord, Wm., assg'r.)			
635	Woodward, David A	Baltimore, Md	Mode of operating the reflector of a solar camera	Mar. 5, 1861.
503	Woodward, Davis B	Ercildown, Pa	Horse-rakes	Feb. 19, 1861.
2055	Woodward, Ferdinand	Sacramento City, Cal	Bee hive	Aug. 13, 1861.
2724	Woodruff, Jacob D., assignor to Thomas B. & John B. Peck.	Brooklyn, N. Y	Saddles	Nov. 12, 1861.
1018	Woodworth, Selim E	Murphy's, Cal	Amalgamator	April 9, 1861.
1544	Woodworth, Selim E., and James E. Wethered	Murphy's, Cal San Francisco, Cal	Arastra	June 11, 1861.
	Woodworth & Wethered. (*See* Wethered & Woodworth.)			
2116	Woody, John	Mount Vernon, Ind	Harvesters	Aug. 20, 1861.
273	Woolsey, Philip H	Andes, N. Y	Shingle machines	Jan. 29, 1861.
504	Woolsey, Philip H	Andes, N. Y	Feeding tapering lumber to rotary planes	Feb. 19, 1861.
1325	Wotten, John E	Philadelphia, Pa	Hydrostatic pressure indicator	May 14, 1861.
	Worby, Wm., and John Fowler. (*See* Fowler & Worby.)			
2452	Worden, Alva	Ypsilanti, Mich	Instruments for stretching elastic gaiters	Oct. 8, 1861.
1914	Worden, L. J., and A. Leach, assignors to selves and D. S. Heffron.	Utica, N. Y	Lamps	July 23, 1861.
45	Wortendike, Cornelius A	Godwinville, N. J	Candlewicks	Jan. 1, 1861.
2272	Wright, Albert H	New York, N. Y	Rice cleaning machines	Sept. 10, 1861.
2500	Wright, E. M	Marysville, Cal	Nozzles for hose-pipes	Oct. 15, 1861.
47	Wright, Hanson	Milford, N. Y	Preparing patterns for moulding	Jan. 1, 1861.
2670	Wright, John, jr.	New York, N. Y	Processes of refining and purifying sugar	Nov. 5, 1861.
1843	Wright, Joseph C	Minersville, Pa	Lamps	July 16, 1861.
2280	Wright, Julius, assignor to self and Jos. Sigourney	Bristol, Conn	Whirling jack for spinnning tops, &c	Sept. 10, 1861.
2912	Wright, Peter	Dudley, Eng	Wheels (Patented in England May 22, 1861)	Dec. 10, 1861.
1104	Wright, Lewis R., assignor to self and Thos. R. Howard	Cohoes, N. Y	Seed planters	April 16, 1861.
	Wright, T., and E. J. Richmond. (*See* Richmond & Wright.)			
131	Wright, Wendell	New York, N. Y	Friction clutches (Reissue)	Nov. 19, 1861.
133	Wright, W. C	New York, N. Y	Car brakes	Jan. 15, 1861.
2683	Wuterich, Ferdinand, assignor to self and John M. Hathawy.	New York, N. Y	Machines for making cigars	Nov. 5, 1861.
1916	Wyberd, John, assignor to Frederick S. Littlejohn	New York, N. Y	Mode of operating slats or blinds	July 23, 1861.
595	Wyckoff, Arcalous	Elmira, N. Y	Machine for cutting wooden troughs	Feb. 19, 1861.
690	Wyckoff, A, and L. Stevens, assignors to A. Wyckoff	Elmira, N. Y	Hollow augers	Mar. 12, 1861.
1096	Wyckoff, Arcalous	Elmira, N. Y	Water pipes	April 16, 1861.
64	Wyckoff, J. N., and Y. M. Fell	Brooklyn, N. Y	Gold amalgamators (Reissue)	April 9, 1861.
1390	Wyckoff, William C	Brooklyn, N. Y	Cork pull	May 21, 1861.
636	Wyeth, Alexander R	West Middletown, Pa	Tanning	Mar. 5, 1861.
	Wygant, James, *et al.* (*See* Bush, Charles, assignor.)			
274	Yale, Linus, jr	Philadelphia, Pa	Locks	Jan. 29, 1861.
1327	Yale, Linus, jr	Philadelphia, Pa	Locks	May 14, 1861.

1326	Yale, Linus, jr.	Philadelphia, Pa.	Lock	May 14, 1861.
2550	Yates, Thomas P.	Concord, N. H.	Paper files	Oct. 22, 1861.
2966	Yeiser, Frederick	Danville, Ky.	Meridian instruments	Dec. 17, 1861.
3019	Yerk, James S., and G. H. Heming	Tiffin, Ohio.	Bridges	Dec. 24, 1861.
1728	Youdan, William, and D. Thomas	West Elizabeth, Pa.	Coal railroads	July 2, 1861.
2220	Youmans, Lewis	Fulton, N. Y.	Low water detector for steam boilers	Sept. 3, 1861.
2163	Youmans, Walter	Waterford, N. Y.	Railroad car trucks	Aug. 27, 1861.
1391	Young, Charles A	Providence, R. I.	Machine for making upholstery springs	May 21, 1861.
54	Young, Hiram	New York, N. Y.	Teapot (Design)	May 7, 1861.
1328	Young, James	New York, N. Y.	Electro-magnetic bathing apparatus	May 14, 1861.
843	Young, Jesse	Franklin Furnace, Ohio.	Packing of pistons for steam engines	Mar. 26, 1861.
1802	Young, John	West Galway, N. Y.	Washing machines	July 9, 1861.
111	Young, John	West Galway, N. Y.	Washing machines (Reissue)	July 30, 1861.
3029	Young, Joseph, assignor to John B. and Joseph Young	Varick, N. Y.	Machines for removing the husks from corn	Dec. 24, 1861.
1729	Young, McClintock, jr.	Frederick, Md.	Gearing for driving machinery	July 2, 1861.
1803	Young, McClintock, jr.	Frederick, Md.	Harvesters	July 9, 1861.
933	Zchech, Gustavus, and Jacob Kiefer	Indianapolis, Ind.	Shingle machines	April 2, 1861.
2056	Zeitter, John, and Joseph Zinth	Dayton, Ohio.	Meat cutters	Aug. 13, 1861.
	Zinn, J. H., and Thomas N. Fisher. (*See* Fisher & Zinn.)			
	Zintl, Joseph, and John Zeitler. (*See* Zeitler & Zintl.)			
	Zscheck, Gustavus. (*See* Gummer, Albert, assignor.)			
637	Zulick, T. C.	Schuylkill Haven, Pa.	Potato diggers	Mar. 5, 1861.
1497	Zwicki, Caspar, assignor to self, John Mason and Anthony, and Nicholas Snyder.	Pittsburg, Pa.	Looms	June 4, 1861.

DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1861.

ILLUSTRATED WITH ENGRAVINGS.

No. 31,005.—WILLIAM C. BERRY, of Woodbridge, N. J.—*Improvement in Machines for cutting Roots.*—Patent dated January 1, 1861.—The cutter is placed at the bottom of a hopper, and moves longitudinally, the knives being so arranged as to cut vertically and horizontally on each end of the cutter. The upright knives are fastened by means of wedges secured in the bottom of the cutter. The parts are so arranged as to prevent clogging of the roots between the knives.

Claim.—The knives G and H H, and the wedges I I, arranged relatively with the cutter F and the finger plates K K, to operate as and for the purpose set forth.

No. 31,006.—ELIAKIM BRIGGS, of South Bend, Ind.—*Improvement in feeding mechanism for Spoke Machines.*—Patent dated January 1, 1861.—On one end of the shaft is placed a screw, into which a worm-wheel gears, the wheel having its axis fitted in a block which is secured to the frame by a joint, to admit of the wheel being thrown in and out of gear with the screw. A clutch and pulley are made to slide freely on the shaft, and to the pulley is connected an arm, the front end of which is attached to a frame in which is placed the pattern and stick to be turned. The frame is moved along as the stick is acted upon by a cord winding on the axis or shaft of the worm-wheel.

Claim.—The arrangement of the screw D, wheel E, attached to block G, the cord N, attached to arm I and axis F of wheel E, catch-bar T, and sliding-clutch H, all arranged for joint operation as and for the purpose specified.

No. 31,007.—BENAJAH I. BURNETT, of Mount Vernon, N. Y.—*Improved Refrigerator.*—Patent dated January 1, 1861.—The ice chamber consists of an isolated frame connected at its bottom and sides by bars, or slats, or wire netting, each side inclining inward from top to bottom. The door is hinged to the bottom of the case, and has sides attached to it, which move with the door to prevent the admission of air.

Claim.—In combination with the provision chamber, the employment of an ice chamber B, so constructed and arranged, as specified, as to have tapering spaces *f* on each side, as specified, for the purpose described.

Also, the employment of the door or leaf C, constructed and operating as specified, for the purpose set forth.

No. 31,008.—J. M. CONNEL, of Newark, Ohio.—*Improvement in Water Elevators.*—Patent dated January 1, 1861.—An adjustable spout is hinged to the side of the curb; to the upper end of the spout is attached a rod acting as a lever fulcrumed in a slot in the side of the curb, which lever is acted upon by a rod having a foot-piece, by means of which the spout can be raised. When the filled bucket is raised, the spout is turned up under the bucket, a stem on the spout causing a valve in the bottom of the bucket to open and discharge more or less water, as may be desired. A board with an aperture fitting the size of the bucket serves to keep the latter in place.

Claim.—The arrangement of means for actuating the spout M, which is hinged to the curb, as set forth, for operating the valve P, and controlling the quantity and the flow of water in connexion with the aperture board J, as and for the purposes described.

No. 31,009.—A. L. DENNISON, of Waltham, Mass.—*Improvement in Watches.*—Patent dated January 1, 1861.—This invention consists in placing the pinion which engages with the main gear upon a supplementary arbor out of the centre of the watch, which arbor carries an intermediate wheel that engages directly with the centre wheel, for the purpose of diminishing the thickness and diameter of watches without weakening or otherwise injuring their works.

Claim.—First, the intermediate wheel I, in combination with the main gear C and central wheel K, when the intermediate and central wheels are in the same plane, as set forth.

Second, combining the maintaining power with an intermediate wheel between the main gear and the central wheel, whereby the ratch of the winding arbor and the ratch of the maintaining power are placed in the same plane, for the purpose set forth.

No. 31,010.—JOHN H. DIALOQUE, of Camden, N. J.—*Improvement in Valve Motion for Steam Engines.*—Patent dated January 1, 1861.—The spindle of the rear valve has an arm connected by a rod to the slide C, and the spindle of the front valve has a similar arm attached to the slide C^1. These slides move freely on the bar D, a reciprocating motion being imparted to the bar by an eccentric on the crank-shaft. On this bar D are projections arranged to carry levers, the outer arms of which are furnished with lips for catching on to a projection in the slides C C^1. The outer ends of the levers are depressed by means of springs pressing against the under sides of the inner ends. The outer ends of the levers are raised by the eccentrics T T pressing on their inner ends, the lower edge of the eccentric being so shaped as to alternately depress one lever while allowing the other to rise.

Claim.—The reciprocating bar D, its slides C and C^1, connected to the steam valves by any suitable devices, and the catch-levers I and I^1, having their upper surfaces parallel with the line in which the said reciprocating bar moves, in combination with the vibrating cams T and T^1, or their equivalents, controlled by the governor, the whole being arranged for joint action, substantially as and for the purpose set forth.

No. 31,011.—EDWARD DITHRIDGE, of Pittsburg, Pa.—*Improvement in Pots for Glass Making.*—Patent dated January 1, 1861.—A second or false back is attached to the sides and bottom of the retort, extending up to a line even with the mouth of the same, for the purpose of adding strength to the retort, and relieving it from a part of the weight of the melted glass.

Claim.—The use of the second or false back in retorts or pots used for making glass, as described, and for the purpose set forth.

No. 31,012.—CALEB H. DOLBEARE, of Boston, Mass.—*Improvement in Lamps.*—Patent dated January 1, 1861.—The filling tube is arranged to pass from the outside through the cap into the lamp, so that the latter can be filled with fluid without removing the cap.

Claim.—In a burner of the kind as specified, the application or arrangement of a filling tube D, so as to pass down through the cap *a*, substantially in manner and for the purpose set forth.

No. 31,013.—JOHN H. DURAND, of Niles, Mich.—*Improved Clothes Drier.*—Patent dated January 1, 1861.—A series of cross slats are connected together in such a manner as to be readily expanded and contracted, after the manner of the "Lazy Tongs."

Claim.—A clothes dryer A, consisting of a series of slats B, connected by cross-rails C, in combination with the links E and legs D, all arranged and operating in the manner and for the purpose set forth.

No. 31,014.—C. EGGELSTON, of Beloit, Wis.—*Improvement in Seeding Machines.*—Patent dated January 1, 1861.—The inner sides of the wheels are provided with annular cases enclosing the driving gears and pinion by which the seed-shafts are caused to rotate. The shafts are made in two parts, the inner ends resting on a central bearing partition. The bottom of the hopper being semi-cylindrical, is provided with holes made square at one end and diamond-shaped at the other, a sliding plate with a series of holes of similar shape, but in a reverse position, being placed beneath the hopper. Beneath each hopper is a cut-off plate operated (each one separately) by hand. The seed and drill spouts are hung by chains to a bar in the rear, so as to be readily adjusted to drill different depths of furrow, and all the drill spouts may be raised at once by means of a lever.

Claim.—First, the combination with the spoked driving wheel B, and concentric spur-gear E, of a surrounding case D, and sled-shaft pinion F, the whole arranged and operating as specified for the purpose set forth.

Second, in combination with the series of spouts C, the series of cut-offs *r r'*, and the adjustable diamond-slotted bottom Z, and slide W, with its hand lever K, and adjustable stop L, the whole constructed and operating as described for the purpose set forth.

Third, in combination with the semi-cylindrical seed-box bottom, the double seed-shaft G H, with two sets of gears and central bearing partition *t*, and separate cut-offs to each seed spout, the whole constructed and operating as specified for the purposes set forth.

Fourth, in combination with the spouts C, attached by removable rods, *h i*, and set in and out as specified, the chains *g* supporting adjustable beam S, and the main frame with two beams M and N, one in advance of the other, the whole constructed and operating as described for the purposes set forth.

No. 31,015.—NICHOLAS HACKITT, of Albany, N. Y.—*Improved Chimney Top.*—Patent dated January 1, 1861.—The upper part of the main pipe is enclosed with a crowning dome; four or more openings are formed in the sides of the pipe near the dome, and each opening is covered with an inverted conical cap, closed at the top and with an opening at the bottom.

A case formed of two frustra of a cone united surrounds these openings, the upper one being open and on a line with the dome, through which the smoke escapes.

Claim.—The employment of the openings D D D D, near the closed end of the pipe A, when shielded by the caps F F, and used in combination with the external conical case E, and the guard H, as and for the purpose specified.

No. 31,016.—JOSEPH HARRIS, Jr., of Roxbury, Mass.—*Improvement in Adding Machines.*—Patent dated January 1, 1861.—Three revolving wheels severally represent units, tens, and hundreds. The springs are so arranged that as a wheel rotates the inclined plane presses them back, and instead of continuing to traverse a circumference outside the pins, a tenth pin is pushed one graduation in advance, the units taking the place of the tens, and so on.

Claim.—The spring escapement movement *a*, in connexion with the pins *n n*, and inclined plane *c*, working in the manner and for the purpose described.

No. 31,017.—ALFRED HATHAWAY, of Charlestown, Mass.—*Improvement in Skates.*—Patent dated January 1, 1861.—The foot rest and runner are so connected that the foot of the wearer is firmly supported in the line of the centre of gravity, and the toe or heel is allowed to spring when the runner meets with any irregularities on the ice. Two locking arms are hinged to the foot-rest in such a manner as to prevent the same from turning on its hinge and rendering it rigid when desirable.

Claim.—An improved skate as made not only with its foot-rest combined with its runner by means of a hinge, rocker, or fulcrum, but with a spring or springs so applied to such runner and foot-rest as to present an elastic support to either or both ends of the runner.

Also, the combination and arrangement of the locking arms, or their equivalents, with the foot rest and the runner having a spring or springs so applied to them as to enable them to operate together, substantially as specified.

No. 31,018.—HENRY HATHAWAY, of Detroit, Mich., and BENJAMIN LATHROP, of Tolland, Conn.—*Improvement in Apparatus for evaporating liquids.*—Patent dated January 1, 1861.—Cooling water currents are drawn through the pans by means of a siphon, thus causing pressure inwardly upon the pans, and which is easily sustained by very thin sheets of metal supported internally by the wood or metallic grate enclosed in the pan. The pans are arranged in a series of four or more, inclining alternately in opposite directions for the ready discharge of the fluid.

Claim.—The use of the siphon in combination with the gratings and arrangement of the pans, substantially as described.

No. 31,019.—JOHN G. HENDERSON, Palmyra, Mo.—*Improvement in Hand Looms.*—Patent dated January 1, 1861.—The back part of the picker staff is constructed of angular form or raised on the top, and the driver of the same shape on the bottom, so that when the shuttle does not go in the box, those parts come in contact and turn the picker staff directly forward against the breast beam, forming a positive stop to the lay. The beams are connected by an endless belt passing around the ends of the yarn and cloth beams, which are so constructed that the rope runs faster around the cloth beam than the cloth will let the cloth beam turn, it therefore has to slip. A lever is used to regulate the tension of the belt, so that when the loom is making cloth the required thickness, the bating of the lay is just sufficient to overcome the friction of the rope, and moves the cloth along as it is woven. The web is shed by means of a frame attached at one end to the body of the lay on a journal, which allows it to work back and forth, and at the other end by a journal to guides attached to the breast beam on a journal, or placed on the same journal with the treadles, the frame and guides thus forming two pieces with a joint at each end and a joint in the middle. When the lay is thrown back, this middle joint goes down and comes up as the lay comes forward. Above the middle joint is a shaft with staples in it. The treadles are placed on a journal behind which comes forward with points that catch in the staples, and are taken down by them.

Claim.—First, so constructing and combining the picker staff M, and driver L, that the staff will stand at right angles to the lay and operate as a stop to the lay when the shuttle fails to box, substantially as described.

Second, operating the take-up and let-off motions by the beating up of the web, by means of the endless belt connecting the cloth and yarn beams, substantially as described.

Third, the combination of the treader E E, guides G G, and shaft M, Fig. 1, so arranged that the taking down of one treadle, by the backward motion of the lay, turns said shaft M partly around, throwing out another staple, to take down the treadles in the proper manner to make the required shed, substantially as described.

No. 31,020.—JOSEPH HOLLEN, of Fostoria, Pa.—*Improvement in Knitting Machines.*—Patent dated January 1, 1861.—The claim and engravings will explain the nature of this invention, the details of which do not admit of a brief description.

Claim.—First, the hook G, when the same is constructed and arranged to operate in taking

up the stitch and carrying it over the end of the needle V, substantially in the curved manner described.

Second, giving the said hook G the sinking and curved returning motions described for carrying down and discharging the stitch by means of the hook carrier H, operated by the lever arm N, substantially in the manner described.

Third, making the lower end of the presser L in the forked form described, and causing the said fork to move in a curve along the two sides of the needle *v*, as described and for the purpose specified.

No. 31,021.—W. J. HOTCHKISS, of Derby, Conn.—*Improvement in the Link Shackle of Chain Cables.*—Patent dated January 1, 1861.—This invention consists of a link of the form of an ordinary chain link, made with a movable piece fitted into its side with one or more tenons, so that, when in place, the complete shackle presents the appearance of an ordinary chain link. The movable side piece is secured by rivets.

Claim.—The construction of the link A, and the movable side piece B, with apertures and hook-formed tenons in their extremities, in the manner and for the purposes shown and described.

No. 31,022.—PROSPER HUMBERT, of Boston, Mass.—*Improved Lever Escapement.*—Patent dated January 1, 1861.—The lever is so constructed, and, with its pallets, so applied relatively to the balance and escape wheel, that the fork of the lever is made to act upon the pin through which it imparts the impulse to the balance on the side of the balance staff opposite to that on which the escape wheel is situated, and the fork is made to act upon the said pin with a more nearly accompanying movement, and operate with less friction.

Claim.—The lever C, having its cylindro-pallets *i j* on a cylinder D, and its fork *g g*, and staff *d*, arranged substantially as described relatively to the staff *b* of the balance and spindle *c* of the escape wheel, to operate as set forth.

No. 31,023.—JOHN C. KIMBALL, of New York, N. Y.—*Improvement in Self-adjusting Carriage Seats.*—Patent dated January 1, 1861.—The seats are so connected with the inner sides of the body and with each other that, by slightly raising the back seat and pushing it forward, the action of the legs or connexions will draw back and depress the forward seat, and place the main seat over it without touching the edge of the body, so as to make a one or two-seated carriage at pleasure.

Claim.—So constructing and connecting the two seats that the curvilinear motions of the back seat will perfectly control the curvilinear motions of all parts of the forward seat when the two seats are constructed, connected, and made to produce the result substantially as described.

No. 31,024.—HENRY LEIBERT, of Norristown, Pa.—*Improvement in Lamps.*—Patent dated January 1, 1861.—The claim and engravings will explain the nature of this invention.

Claim.—Forming an adjustable cap for lamps of a single flat piece of metal having projections *e*, *f*, and *b*, and recesses of the shape and arrangement described, the said piece of metal being bent as specified, so as to form the body of the cap, and so that the two projections *e e* shall form a spring clip for grasping the tube of the lamp in the manner set forth.

No. 31,025.—THEODORE DEPON MATHEWS, of St. Peter's Parish, S. C.—*Improvement in Composition of Castor Oil Soaps.*—Patent dated January 1, 1861.—This invention is explained by the claim.

Claim.—The product formed by combining the following named articles in the proportions indicated: Oil of Palma Christi, 1 gallon; aqua ammonia, 2 lbs; refined potash, 6 lbs.

No. 31,026.—ALBERT G. MACK, of Rochester, N. Y.—*Improved Machine for setting up Barrels.*—Patent dated January 1, 1861.—The frame consists of a bottom plate provided with a V-shaped ledge for receiving the staves, and with uprights which support an upper annular plate. To the base on opposite sides are attached vertical rods, which serve as guides for a band which is made to slide up and down by means of a treadle frame. Under the upper ring passes a rope over pulleys and around a windlass, to which rope are attached cords having weights suspended at their lower ends, for the purpose of bringing the rope to its original position after having been brought to bear upon the staves.

Claim.—The adjustable or rising and falling band B, in connexion with the adjustable and flexible loaded band or rope D, applied to frame A, which is provided with an annular ledge *d* at its base *a*, an annular plate *c* at its top, and a winch or windlass H, all arranged substantially as and for the purpose set forth.

No. 31,027.—JOHN MIDDLETON, of New York, N. Y.—*Improved Ice Crusher.*—Patent dated January 1, 1861.—One of the jaws is stationary, and the other is moved by a lever. The bottom of the receiver consists of a plate which is held in position by a spring. The backward movement of the jaw causes the plate to open and discharge the crushed ice, when a projection releases the tension of the spring, and the plate resumes its position.

Claim.—The combination of the receiver A, jaws B and D, and sliding bottom G, operating together substantially in the manner and for the purpose set forth.

No. 31,028.—GILBERT H. MOORE, of Rochester, N. Y.—*Improvement in Ploughs.*—Patent dated January 1, 1861.—This invention consists in the formation of the mould-board by the combination of two spiral curves which recede from the centre while they continue to revolve about it; the first spiral commencing with the junction of the share with the land-side, and terminating at about midway of the mould-board, at the point where the furrow-slice reaches the perpendicular.

Claim.—A plough constructed and composed of the several characteristic features described.

No. 31,029.—WILLIAM NEWBURY, of Clarksville, Mo.—*Improvement in Straw Cutters.*—Patent dated January 1, 1861.—A rake-toothed feed roller is arranged at the bottom of the hopper, and feeds the straw to the cutter. The knives, which are of curved form, are mounted on projections on a circular gauge-plate, having openings cut in it for the escape of the cut straw. The knives are adjusted by means of thicker or thinner plates placed under them and secured by screws to the gauge-plate. A series of pulleys and gearing impart motion to the several parts.

Claim.—First, the combination of one rake-toothed feed roller U, a vertical hopper F, a series of revolving knives T T, a horizontal gauge-plate A, and the gearing D B E K J G I M N; the whole constructed, arranged, and operating in the manner and for the purposes set forth.

Second, the combination of the separate or removable projections *b b* on the knives' rest, set screws *m*, knives T T, and horizontal gauge-plate A, in the manner and for the purpose set forth.

No. 31,030.—AUGUST NITTINGER, jr., of Philadelphia, Pa.—*Improved Sausage Stuffer.*—Patent dated January 1, 1861.—The cylinder is provided with trunnions at its centre, to admit of being tilted on the frame. A latch with a rounded end and kept in position by a spring is secured to the frame. As the cylinder assumes a horizontal position, a projection near its mouth passes over the end of the latch which secures it to the frame. A table is hinged to the front end of the frame, its outer end being supported by a leg, and having a slot at its hinged end to allow of the free movement of the tube when the cylinder is tilted.

Claim.—First, the cylinder J, with its projection *m*, in combination with the spring latch I, the latter being so constructed and so arranged in respect to the said projection that the cylinder is rendered self-locking, as set forth.

Second, the hinged table L and its oblong slot *p*, when arranged on the frame in respect to the cylinder J and its tube K, as and for the purpose set forth.

No. 31,031.—JOHN T. PLUMMER, of Plainfield, Conn.—*Improvement in Machinery for Drawing and Twisting Wool.*—Patent dated January 1, 1861.—A detached stationary conducting tube of conical form is fitted in the upper rail, its lower end entering the box which contains the drawing-rollers. The two portions of the box are caused to rotate at different velocities. By this arrangement the broken end of a roving is prevented from getting foul of other rovings or of any parts of the machine, and either a broken end or the end of a new bobbin is conducted to the mouth and rollers without the necessity of piecing.

Claim.—The stationary detached tube G, applied in combination with the rotating gear-box containing the front or lower drawing rollers, substantially as and for the purpose specified.

No. 31,032.—JOHN REIST, of Philadelphia, Pa.—*Improvement in Scissors.*—Patent dated January 1, 1861.—This invention consists in the attachment of a pair of blades jointed to a U-shaped spring, the tendency of which is to keep the blades open, but by compressing them the cutting action is obtained.

Claim.—Scissors formed by the described combination and arrangement of blades A, springs C and D, plates B, and pivots *h* and *c*; the whole being constructed and operating substantially as described.

No. 31,033.—GEORGE H. REYNOLDS, of New York, N. Y.—*Improvement in Mounting Lithographic Stones.*—Patent dated January 1, 1861.—This invention consists in cementing each stone permanently in a movable frame of cast iron or other metal, the frame to be secured to the bed of the press for the purpose of rendering the stone less liable to be broken under pressure.

Claim.—Mounting each stone permanently in a metallic frame, in the manner and for the purposes substantially as set forth.

No. 31,034.—EZRA RIPLEY, of Troy, N. Y.—*Improved Wrench.*—Patent dated January 1, 1861.—This invention consists in combining an adjustable rotating-faced jaw with a wrench, stock, or bar, having a griper hinged to it, and when adjusted and applied to rods of varying diameters does not present the same point of contact on the face of the jaw to the article.

Claim.—The rotating-face adjustable jaw C, having a direct screw adjustment, as described, in combination with the hook or claw griper B, hinged to the wrench stock or bar A, combined substantially and operating in the manner and for the purposes set forth and shown.

No. 31,035.—EZRA RIPLEY, of Troy, N. Y.—*Improved Mode of Hanging Covers to Bailed Metallic Hollow-ware.*—Patent dated January 1, 1861.—The rear end of the cover is provided with an arm which is made to fit upon the lug to which the rear end of the bail is secured, so as to allow the cover to swing off when necessary, and to swing back and cover the kettle when water is poured from the nozzle.

Claim.—An improved and more convenient article of teakettle cover, substantially the same as fully described and shown, and such as may be attached in a line with the spout to spouted and bailed metallic hollow-ware or teakettles, in the manner substantially as set forth.

No. 31,036.—ARCHIBALD H. ROWAND, of Allegheny, Pa.—*Improvement in Coupling for Railroad Cars.*—Patent dated January 1, 1861.—This invention consists in providing within a box a series of metallic springs so arranged as to operate with a lateral pressure on opposite sides of a wedge-shaped bar, so as to allow the bar to press between the opposing and lateral pressure caused by the springs until the wedge passes the entrance to the springs.

Claim.—The application and use of the compound metallic springs, supported by the elastic spring pods or cushions C C C C, and its socket or bed *m m*, operating by lateral resistance or pressure against the entrance of the wedge-shaped end of the bar A, substantially as described in the second claim.

Also, the application of the ratchet-shaped notches N N N N N N in the inside of the main or metallic springs, and the corresponding recesses in the wedge end of the bar A, in combination, for the purpose set forth substantially as described.

No. 31,037.—THOMAS N. ROOKER, of New York, N. Y.—*Improvement in Type Cases.*—Patent dated January 1, 1861.—This invention consists in forming the type case and its box of considerable depth, so as to hold a large quantity of types; the boxes being provided with movable bottoms arranged so as to be readily adjusted or raised as the types are taken out.

Claim.—A type case having its boxes *a* provided with movable or adjustable bottoms *b*, arranged to operate by any suitable mechanism, substantially as and for the purpose set forth.

No. 31,038.—HENRY SCHEUERLE, of New York, N. Y.—*Improved Runches for making Slides for Hoop Skirts.*—Patent dated January 1, 1861.—This invention consists in securing an additional die to those used for cutting and forming the sides of hoop skirts, and forming a corresponding female die in the forming plate below the same, in such a manner as to cause the bodies of metal usually thrown away between the portions cut out by the former dies to be cut and formed into tips to bind the ends of the bustle hoops, and for other purposes.

Claim.—Combining with the male and female dies H I K L, for cutting and forming the slides from the strips of metal, the additional set of dies M M′, for cutting and forming the tips from the portions of the metal strip which heretofore went to waste, as set forth.

No. 31,039.—JOHN C. SCHOOLEY, of Cincinnati, O.—*Improved Refrigerator.*—Patent dated January 1, 1861.—The air passage extends from the exterior of the ice chamber down the inside, encircling the bottom of the ice receptacle, and discharging at a point above the mouth of the water escape tube in the bottom. The water escape tube is provided with a partition making two passages, one leading from the ice chamber and the other from the induction air passage.

Claim.—First, the application and arrangement of the air induction passage G, extending from the top of the exterior of the ice chamber down its inside underneath the ice meltings, and discharging at a point above them, substantially as and for the purpose set forth.

Second, the construction of the double water escape tube M, so arranged as to carry off the meltings in the ice chamber and the moisture produced by condensation within the submerged air induction passage with one and the same water cup, substantially as and for the purposes set forth.

No. 31,040.—HERMANN SHLARBAUM, of New York, N. Y.—*Improvement in Aquariums.*—Patent dated January 1, 1861.—The vessel containing the animals, &c., is made of glass and placed in a frame, so as to be hung upon a wall.

Claim.—The described construction of an aquarium arranged so as to be suspended on a wall, in the manner and for the purpose substantially as set forth.

No. 31,041.—ROBERT R. TAYLOR, of Reading, Pa.—*Inproved Steam Hammer.*—Patent dated January 1, 1861.—By connecting the piston rod to the wooden helve, at a point between the fulcrum and the hammer, a mass of wood absorbing the heavy shocks to which the machine is submitted intervenes between the fulcrum of the helve and the point where the power is applied, as well as between the latter point and the hammer. As the hammer block moves in vertical guides, its face will always be parallel with the face of the anvil whatever may be the thickness of the intervening metal. The points of screws within the slotted lever are so

adjusted upon a projection on the helve that the extent of movement of the helve will be imparted to the slotted arm, through which and connecting side arms a reciprocating motion, simultaneous with the vibration of the helve, is imparted to the valve spindles and their respective valves, the extent of rise and fall of the hammer being governed by the amount of "dwell" allowed to the valves by the adjustment of the screws.

Claim.—First, combining the vibrating wooden helve G with the hammer block, moving in vertical guides and with a double-acting steam cylinder, when the latter is connected to the wooden helve at a point between the centre of the helve's vibration and the hammer, as and for the purpose set forth.

Second, operating both exhaust and steam valves by means of the projections *j* on the helve, and the slotted lever *h*, with its adjustable set screws *k* and *k'*, the whole being arranged and operating as set forth for the purpose specified.

No. 31,042.—JOHN TERRELL, of Philadelphia, Pa.—*Improvement in Knitting Machines.*—Patent dated January 1, 1861.—This invention is designed as improvement on the patents granted to J. Hollen, July 11, 1850, and November 28, 1854, and consists of devices for operating the thread passer, and a mechanism for regulating the movements of the machine when employed for turning the heel and toe of the stocking. The invention does not admit of a brief description.

Claim.—First, operating the thread presser 5 by means of the reciprocating slide Q and its roller *m'*, in combination with the lever S, vertical slide T, and spring *s*, the whole being constructed and arranged substantially as set forth.

Second, giving the signal for reversing the motion of the machine on turning the heel or toe of the stocking by means of the sliding blocks W W' on the edge of the plate U, in combination with the shaft 7, its arm 12, and the bar 13, catch 9, and ratchet wheel *f*, the whole being arranged and operating substantially as set forth.

Third, the plate U, ring V, its projection *u*, the blocks W and W', with the springs *x* and *w*, engaging into the notches on the back of the said plate U and said ring V, as specified, in combination with the movable yielding lever C, the whole being arranged for joint operation substantially as and for the purpose specified.

No. 31,043.—H. W. WARNER, of Greenfield, Mass.—*Improvement in Skates.*—Patent dated January 1, 1861.—This invention consists in so forming the skate that the foot will stand in separate and independent parts, and in attaching it to the runner, by bolts and nuts, so as to obtain a pivot connexion, thus giving all parts a free rocking motion. The skate may be made to fit any ordinary sized foot by placing the parts nearer or further apart.

Claim.—A skate provided with separated foot plates C, that are jointed to the runner A, as shown and described.

No. 31,044.—L. C. T. WEBER, of Rochester, N. Y.—*Improvement in Breech-loading Ordnance.*—Patent dated January 1, 1861.—The block composing a part of the breech piece swings upward from the rear of the barrel upon pivots to which it is connected by strong straps on each side. The piece is made to move around in a horizontal direction by means of an inclined shaft, the upper end of which is placed in bearings in the tranverse stays of the carriage; at the lower end of this shaft is secured a spherical roller, the shaft being caused to rotate by means of a worm wheel gearing with an endless screw worked by a hand wheel. A gunner's seat is arranged to swing upward at the rear of the carriage, to allow of the piece being loaded and fired while in retreat. Two springs are secured to the platform and extend up in the rear of the wheels, so as gradually to check the recoil and cause the wheels to return to their proper position against stops in front of them.

Claim.—First, the attachment of the block G, containing the screw plug H, to the barrel of the piece by strap pieces I I, attached to pivots *c c*, secured in the sides of the barrel, such strap pieces being arranged to swing in vertical planes from the said pivots and the rear face of the barrel, and front face of the said block, having the form of corresponding arcs concentric to the said pivots, all substantially as described.

Second, the adjustment of the elevation of the piece by means of a shaft M and cam M', combined with a shaft *r*, by means of an endless screw *r'*, and worm wheel *q*, and the whole applied, in combination with the gun and its carriage, substantially as set forth.

Third, the employment for working the piece in a horizontal direction of a shaft P, roller P', worm wheel *t*, endless screw Q', and shaft Q, the whole applied, combined, and operating substantially as described.

Fourth, the swinging gunner's seat R, applied and secured to the carriage, and operating substantially as specified.

Fifth, the employment for meeting the recoil of the gun, and employing the force thereof to return the gun to its place, of springs U U and V V, arranged in combination with boxes C C, and operating substantially as specified.

No. 31,045.—STEPHEN R. WEEDEN, of Providence, R. I.—*Improvement in Lamp and Candle Wicks.*—Patent dated January 1, 1861.—The invention is explained by the claim and engraving.

Claim.—The wick composed of a single strand enchained in a series of single loops, as described.

No. 31,046.—S. A. WHITNEY, of Glassborough, N. J.—*Improved Glass Stopper for Bottles.*—Patent dated January 1, 1861.—The lower end of the stopper is provided with two shoulders having a recess between them, and with a tapering termination, for the purpose of expanding the cork washer, which is first placed within the neck of the bottle, and then contracts to fit the recess in the stopper.

Claim.—The glass stopper B, its screw thread *d*, shoulders *e* and *f*, cork washer *h*, and tapering termination *i*, the latter being so formed and so arranged, in respect to the two shoulders, so as to facilitate the adjustment of the washer to and confinement within the recess between the said shoulders in the manner described, and the whole being constructed and adapted to the neck of the bottle and its shoulder *m*, as set forth.

No. 31,047.—JOHN WILKINSON, of Baltimore, Md.—*Improvement in Automatic Brakes.*—Patent dated January 1, 1861.—The sub-bolster is made to rock or vibrate upon suitable bearings in the check posts. The brake rod is attached to a pillar extending upward from the sub-bolster. In descending a hill the forward pressure causes a rocking of the front axle which brings the brakes into action.

Claim.—Operating carriage brakes by the vibration or rocking of the axle, substantially in the manner and upon the principles set forth, and for this purpose I claim the sub-bolster *b* and its pillar *h*, combined with the main bolster *a*, as set forth.

No. 31,048.—WILLIAM WILLIAMS, assignor to Himself and R. D. GOODWIN, of St. Louis, Mo.—*Improved Floating Mattress.*—Patent dated January 1, 1861.—The outside edges of the mattress are provided with a flange, in which are perforations for the purpose of lashing a number of them together to form a raft. The raft may be converted into a scow by applying inflated gunwales to its edges.

Claim.—The arrangement of continuous flange P, with its eyelets and cord laced through the same, and the inflated gunwale, with the mattress, the whole to be made substantially in the manner described.

No. 31,049.—CORNELIUS A. WORTENDYKE, of Godwinville, N. J.—*Improvement in Candle Wicks.*—Patent dated January 1, 1861.—This invention consists of a wick composed of several strands, each of which is composed of two or more separate yarns, the strands being twisted in the same direction as the yarns, but the wick being twisted in a direction opposite to that of the strands.

Claim.—The wick produced by the system of spinning and twisting specified.

No. 31,050.—CORBIN O. WOOD, of Worcester, Mass.—*Improvement in Breech-loading Fire-arms.*—Patent dated January 1, 1861.—The notched estopping pin is placed in front of the hammer, and extends transversely through the stock. Near its outer end the pin has a small stud which enters a corresponding hole in a lever-catch arranged on one side of the stock, which serves to lock the barrel into the stock. The pin prevents the hammer from exploding the priming when the barrel is not properly latched to the stock.

Claim.—The arrangement and combination of the notched estopping pin D, or its equivalent, with the percussion hammer and the lever-latch or mechanism for latching the barrel.

No. 31,051.—HANSON WRIGHT, of Milford, N. Y.—*Improvement in preparing Patterns for Moulding.*—Patent dated January 1, 1861.—The claim explains the nature of this invention.

Claim.—First, the process of preparing the surfaces of cast iron patterns to be moulded from, by coating the heated surfaces of those patterns with a composition of matter consisting of beeswax, India-rubber, and sulphur, substantially in the manner set forth.

Second, so coating such patterns after they have been previously prepared by immersing them in dilute sulphuric acid, and substantially as described.

No. 31,052.—JOHN BURK SCHWENNINGEN, of Wurtemburg, Germany, assignor to JACOB E. BUERK, of Paoli, Ind.—*Improved Watchman's Time Detector.*—Patent dated January 1, 1861.—Within a case containing a watch movement is a hollow drum which rotates with the hour hand of the watch, and which carries a narrow strip of paper marked off into twelve parts to represent the hours. A series of spring points are operated by the keys kept in the several stations which the watchman has to visit, in such a manner that, by indentations produced by the spring-points on various parts of the paper, the time when he has visited each station is indicated.

Claim.—The employment of a series of keys C, with bits of different shapes, in combination with spring-points B and with a drum A, carrying a strip of paper F, and rotated by a clock movement, substantially as and for the purposes specified.

No. 31,053.—JOHN F. GREENE, of Brooklyn, N. Y., assignor to SAMUEL B. TOBY, of Providence, R. I.—*Improvement in Machines for making Hat Bodies* —Patent dated January

1, 1861.—This invention consists in the employment of a picker and its appendages for receiving, picking, and throwing the fragments of fibres obtained from the disintegration of fur and other felts, in combination with the doffer of a carding engine which delivers a bat of carded woollen fibres, and with winding cones on which the bat so formed is wound into hat bodies, by means of which combination the bat of carded fibres, as it passes from the doffer of the card to the cones, is covered with the disintegrated fibres from the picker, and becomes incorporated therewith. The curved plate over the picker is designed to break the current of air, and prevent the injurious effects of the same on the bat of carded fibre below.

Claim.—The combination of the picker with the doffer of a carding engine and the winding cones, substantially as and for the purpose specified.

Also, in combination with the rotating picker, the break current plate in the cap case over the picker, and the deflecting plate, substantially as and for the purpose specified.

No. 31,054.—JAMES HAYNES, of Hollis, Me., assignor to Himself and TRISTRAM T. LEWIS, of Boston, Mass.—*Improved Device for Straining Wood Saws.*—Patent dated January 1, 1861.—The centre bar, instead of being connected by a pin to the side bar, extends into a metallic socket secured to the inner side of the side bar. To this socket is jointed an arm having a rack extending upwards. Upon the cross-bar is secured a straining bar provided with studs, by moving which upon the rack the side bar is moved outward and the saw caused to be strained.

Claim.—The described peculiar arrangement of the arm D′, the rack D, and the lever E, together and within the saw frame, and with respect to the lower cross-bar *d*, and either of the end bars *a b*, as specified.

No. 31,055.—F. G. JOHNSON, Brooklyn, N. Y., assignor to Himself, W. T. MILLIKEN, Morrisania, N. Y., and E. JONES, New York, N. Y.—*Improvement in Water Meters.*—Patent dated January 1, 1861.—Within a pipe is arranged a simple shaft adjusted on two points or bearings. On this shaft, and at suitable distances from each other, are several wheels or bands having blades on their outer edges, and at an angle with the shaft. Between the wheels are sections of a hollow screw surrounding the shaft clear of contact, but in contact with and held by the inner surface of the pipe, leaving the shaft free to be turned by the water passing through the spaces between the threads of the screw, and coming in contact with the blades on the shaft in perpendicular lines to the surfaces of said blades, by which means the water, as it passes through the pipe, is made to act and react on the inner surfaces of the threads of the screw and the blades on the shaft several times before it leaves the meter.

Claim.—The alternate combination of the several (two or more) sections 1 2 3 of the water passages with the several (two or more) intervening blade wheels 1″ 2″ 3″, substantially in the manner and for the purpose set forth.

No. 31,056.—PURCHES MILES, of New Haven, Conn., assignor to Himself and AMZI P. PLANT, of Plantsville, Conn.—*Improvement in Nut Machines.*—Patent dated January 1, 1861.—The object of this invention is to obtain a machine by which the operation of cutting off the blanks from the bar, the swaging of the same, and the punching thereof, may be simultaneously and automatically performed.

Claim.—The combination of the lateral countersunk stamping projection *m* with the cutter L, in the manner shown and described.

The arrangement of the cutter N, punch p, swag O, clearer Q, and block G, with the rotary die plate B and bed E, as shown and described.

In nut machines, making the lower portion of the open die F, of conical form, substantially in the manner and for the purpose set forth.

Also, the locking of the nut blank within the bottom of the open die F, substantially as and for the purposes shown and described.

No. 31,057.—JOSEPH W. PEARSON and H. O. PEABODY, of Winchester, Mass., assignors to Themselves and D. E. HAYWARD, of Malden, Mass.—*Improvement in Skating Boots.*—Patent dated January 1, 1861.—The skate is permanently attached to the boot by means of a plate embraced within the sole, two slotted projections being attached to the plate in which the skate iron is fastened.

Claim.—The combined boot and skate described, the support for the runner being confined within the sole, as set forth.

No. 31,058.—WILLIAM SCHILLING, of Baltimore, Maryland, assignor to Himself and JESSE KLINEFELTER, of same place.—*Improvement in the Manufacture of Spirituous Liquors from Tomatoes.*—Patent dated January 1, 1861.—The process consists in mixing with mashed tomatoes a quantity of barley malt, and sugar in heated water, to which is added afterwards some yeast. After standing a proper time, it is distilled in the usual manner.

Claim.—The described process for making brandy from tomatoes, not wishing to confine myself to the precise proportions of the ingredients used nor to the exact degrees of heat specified, but to vary the same as may be found necessary, without departing from the essential character and principles of said process.

No. 31,059.—FRANCIS VEERCAMP and FLANCIS LEOPOLD, of Philadelphia, Pa., assignors to ROBERT A. MAXWELL, of same place.—*Improvement in Gymnastic Apparatus.*—Patent dated January 1, 1861.—The invention consists in the employment of one or more pulleys with cords attached, the force applied to turn the pulleys being resisted by the friction caused by contact of two surfaces, which may be so regulated that the friction may be increased or diminished at pleasure. The friction disks are attached to a shaft, and faced with leather or other suitable material. By means of springs the cords, when released, are wound around the pulleys, and the amount of friction is determined and indicated by means of a spindle actuating a pointer on an index plate.

Claim.—First, the employment, for gymnastic or calisthenic exercise, of one or more pulleys with cords attached to their peripheries, when the force applied to raise the cords and turn the pulleys is resisted by the frictional contact of surfaces, and when the amount of friction is regulated by the devices described, or their equivalents.

Second, the employment of two or more friction disks, faced with leather or other suitable material, and constructed substantially as described, when the said disks are so combined with the shaft H as to resist the turning of the latter, as set forth.

Third, one or more pulleys N on the shaft H, each pulley having a cord *n*, and a spiral groove for receiving the same, in combination with the ratchet wheel *k* and spring dog *d*, the coiled spring P, and the friction disks before described, or their equivalents; the whole being arranged and operating substantially as set forth for the purpose specified.

Fourth, the graduated index plate Q, pointer *q*, and spindle M, in combination with with the friction disks and the intervening devices, or their equivalents, by which the movement of the spindle is caused to increase or diminish the amount of friction, as set forth.

No. 31,060.—JOHN H. WHITLEY, of Owego, N. Y., assignor to Himself and C. S. CARMICHAEL, of same place.—*Improvement in Apparatus for Enlarging Photographic Pictures.*—Patent dated January 1, 1861.—A series of mirrors or reflectors are so arranged and operated, in combination with the camera, whereby, notwithstanding the movement of the earth upon its axis, the rays of light will continue to be reflected in the same direction for as long a time as may be necessary to obtain the print, so that distortion of the picture will be prevented. Motion is given by means of clock-work driving the mirror shaft at proper speed relatively to the motion of the earth upon its axis, the object being to obtain from photographic negatives of a given size positive pictures of a much larger size.

Claim.—So applying and operating a system of mirrors or reflectors, in combination with a camera, that, by the movement of one of the mirrors, the rays of the sun may continue to be reflected in the same direction through the camera for as long a time as may be necessary to obtain a print, substantially as described.

No. 31,061.—GILMAN K. WINCHESTER, of Providence, R. I., assignor to the NEW ENGLAND BUTT COMPANY, of same place.—*Improvement in Braiding Machines.*—Patent dated January 1, 1861.—The object of this invention is to arrange a braiding machine with an even number of carriers in such a manner that the twist is taken out of every strand by giving to each carrier two or more partial revolutions on two or more points on its circumition on the table which forms the support and guide for said carriers, thereby keeping the sides of each strand always facing in the same direction. By this means bands from an even number of strands having silk on one and cotton on the other side may be produced.

Claim.—The arrangement of the spring hooks J, in combination with the slotted table A, and with the carriers B, constructed and operating substantially as and for the purposes set forth.

Also, giving to each carrier of an even strand-braiding machine two or more partial revolutions at two or more successive points of its circumition on the table, substantially as and for the purposes described.

No. 31,062.—JAMES E. FURGUSON, of Micanopy, Fla.—*Improvement in Cotton Gins.*—Patent dated January 1, 1861.—The roller is covered with a leather strip wound around it in a spiral form, above which is an adjustable inclined metal plate, the lower edge of which is bevelled to conform to the surface of the roller. The vibrating rake or comb, with alternate long and short teeth, is provided at each end with journals fitted in bearings, which are placed in inclined slots in the side pieces, and secured at any desired point by set screws to regulate the distance between the teeth and roller.

Claim.—The roller C, constructed as described, and the adjustable plate D, in combination with the adjustable vibrating rake or comb H, arranged for joint operation, as and for the purpose set forth.

No. 31,063.—JAMES M. HILL, of Angel's Camp, Cal.—*Improvement in Amalgamators.*—Patent dated January 1, 1861.—This invention consists of a rotating basin, provided with a central vat for containing mercury, the upper or inner surfaces of the basin being amalgamated and so operating, in connexion with mercury, as to cause the gold amalgam to settle at the bottom of the vat.

Claim.—The device shown and described for collecting precious metals, which I term a

"gleaner," and which consists of a rotating basin H, provided with a central mercury vat G, mounted above a driving shaft B and frame A, the whole constructed and operating as set forth, whereby the water, quartz, and other impurities will be expelled over the edges of the basin by centrifugal force, while the precious metals of superior gravity will fall into the central mercury vat, all as specified.

No. 31,064.—B. B. HOTCHKISS, of Sharon, Conn.—*Improvement in Riveting Curry-combs.*—Patent dated January 1, 1861.—This invention consists in heading or securing, by means of dies and sliding supports, all the fastenings for connecting the parts of a currycomb at one and the same operation.

Claim.—Supporting the several parts of a currycomb in their proper relative positions between and while being acted upon by the heading dies A B, by means of the bearers I K M, or their equivalents, substantially as and for the purpose specified.

No. 31,065.—J. W. LEWIS, of Providence, R. I.—*Improved Blacking-box Holder.*—Patent dated January 1, 1861.—This invention consists in securing and enclosing a blacking-box within a case or box having a cover, and attached to a suitable handle.

Claim.—As an improved article of manufacture, a blacking-box holder, constructed with the enclosing box *a*, hinged cover *b*, adjustable slotted clamping plate A, and otherwise made as shown and described.

No. 31,066.—JAMES MCNAMEE, of Easton, Pa.—*Improved Bread and Pastry Board.*—Patent dated January 1, 1861.—The lower part of the box or chest is designed as a receptacle for flour, over which is the moulding board provided with two rabbeted traps, the latter being raised by means of shafts having a cross arm on their inner ends. The upper part of the chest is provided with drawers and partitions for the reception of the necessary tools used in moulding, and for spices, &c.

Claim.—A bread and pastry board having its top *c* provided with receptacles E E *f*, drawer *g*, rabbeted traps *d d*, lifting shafts C C, and otherwise made, as shown and described.

No. 31,067.—JOHN TABER, of Bangor, Me.—*Improvement in Attaching the Shrouds of Ships.*—Patent dated January 1, 1861.—The semi-tubes are designed to secure the end of the rope, being made in a tapering form on the outer side and passed through a sliding clasp, which serves to compress them and securely hold the rope. The rope is tightened when necessary by means of a right and left screw fitting in nuts, the one attached to the sliding clasp and the other to the chain plates or to the vessel.

Claim.—The combination of the tapering semi-tubes A A, as constructed with the clasp B, and right and left screw D, operating as set forth and for the purposes described.

No. 31,068.—JOHN SANDS VERNAM, of Rochester, N. Y.—*Improvement in Corrugating Iron.*—Patent dated January 1, 1861.—This invention consists in making a corrugation or indentation resembling a spoon bowl in the straight or tangential portions of corrugated iron, in a direction transverse, or nearly so, to the main corrugation, for the purpose of obtaining greater strength and rigidity.

Claim.—The combination of two distinct corrugations in one sheet of iron, where the line of direction of one corrugation is at right angles or transverse, or nearly so, to the line of the direction of the other corrugation, substantially as described above and shown in the accompanying drawings, marked A.

No. 31,069.—ELIZA W. TARPLEY, of Jackson, Miss., executrix, and J. T. SIMMS and ISAAC HULL, of Delta, Miss., executors of the last will and testament of Colin S. Tarpley, deceased.—*Improvement in Cotton Cleaners.*—Patent dated January 1, 1861.—The whippers move in the same direction, their teeth interlocking, by which means the cotton is divided into small locks, and the dirt, trash, &c., are detached and fall through a seive in the bottom of the chamber, and are passed off by an inclined partition below. The blast caused by the fan clears the dust from the cotton on its descent from the exit of the whipper chamber.

Claim.—The combination of the sieve floor F, whipper chamber B, having feed and delivery apertures, substantially as described, whippers or beaters C C', and blast flue I, when the latter or blast chamber is separated from the dust chamber by the close partition G, essentially as shown and described.

No. 31,070.—GEORGE WILLIAMSON, of Newark, N. J., assignor to L. S. GOBLE and H. E. RICHARDS, of same place.—*Improved Veneer Planer.*—Patent dated January 1, 1861.—In operating this machine the stuff is introduced between the front, upper, and lower feed rollers, and by them forced between the top of the slot table and the pressure bar, by means of which, and the intervention of springs under the slot table, the stuff is brought in a true line directly over and in contact with the revolving knives by which it is planed, the stuff at all times being firmly clasped between the top of the slot table and the pressure bar. The back feed-rolls seize and draw the stuff on after it has passed the knives, and thus it is planed from end to end.

Claim.—First, the yielding mouthpiece or slot table Fig. 3, adjusted and operating substantially in the manner and for the purpose described.

Second, the combination of the said yielding mouthpiece or slot table with the pressure bar B, operating together to clasp the wood and render it firm while being planed, substantially in the manner and for the purposes described.

No. 31,071.—E. B. BANKER, of Schaghticoke, N. Y.—*Improvement in Railroad Chairs.*—Patent dated January 8, 1861.—The jaws are made narrower than the base pieces, and are inclined, so that the wedge can be inserted under the rail between the jaws, thus holding all the parts firmly; the sides of the base pieces are provided with projecting lips which overlap into each other.

Claim.—The combination of wedge J, with the divided or compound chair, the same consisting of the jaws B B, and B' B', extended base pieces A A', with their inclined surfaces and the lapping and abutting lips b b^1 b^2 b^3, all arranged in the manner specified.

No. 31,072.—A. W. BRINKERHOFF, of Upper Sandusky, O.—*Improvement in Corn Planters.*—Patent dated January 8, 1861.—The platform and shaft are made in sections connected by eyes and rods, which enables the machine to correspond to the surface of the ground. The seed box is provided with a cylinder at the bottom, which, by an arrangement of rods and cranks, can be made to revolve with a reciprocating motion, thus dropping the seed when desired. The tongue is attached in such a manner that when the operator is not in his seat, the weight of the driver raises the dropping apparatus above the ground.

Claim.—First, the combination and arrangement of rods d, cranks e, and cylinders b, with the sectional frame and axle, as set forth, whereby the exterior sections may be turned up and the planting of the centre section continued.

Second, the combination of opener and coverer F, with the eye m, brace n, and bolt k', constructed, arranged, and operating substantially as set forth.

Third, the arrangement of the tongue H, hounds G, set screw k, axle c, and frame A, as and for the purposes set forth.

No. 31,073.—IRA S. BROWN, of Hopkinton, R. I.—*Improvement in Saw Teeth.*—Patent dated January 8, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The employment in saws of one or more planing teeth, having a form substantially as described, that is to say, having a section at right angles to the line of motion of a form analogous to the letter S, so as to present separate cutting surfaces for each side of the kerf, so nearly opposite as to support each other, and so arranged that each of the two cutting edges has a separate and independent passage for the escape of its chips, substantially as set forth.

No. 31,074.—EGBERT P. CARTER, of China, N. Y.—*Improvement in Window-Sashes.*—Patent dated January 8, 1861.—The object of this invention is to facilitate the insertion of a sash in the window-frame without the use of side strips, by means of a strip hinged to the sash, which forms a square edge with the sash when in place.

Claim.—The combination of the sash B with the strip C, constructed as described, the two being hinged or secured together by the plates or bars a a, and operating in the manner and for the purpose specified.

No. 31,075.—LORING COES and AURY G. COES, of Worcester, Mass.—*Improved Machinery for Grinding Heads for Screw-Wrenches.*—Patent dated January 8, 1861.—The holder to which the article to be ground is secured is pivoted to the front end of a lever by a rod hung to a pin, which is made long, so as to admit of lateral movement of the rod. The holder is secured to the rod by a swivel joint, which, in connexion with the pivot joint, constitutes a universal joint. The lever which operates the holder is provided with a series of holes, so that as the stone wears down the lever can be moved to the rear upon the fulcrum pin. Plates of proper forms for grinding concave, convex, or inclined surfaces may be used in connexion with a suitable holder when desirable.

Claim.—In combination with grinding and polishing machines, a holder to which the articles to be ground are secured, said holder being so constructed and arranged as that the position of the articles may be changed while in said holder, for the purpose of grinding or polishing square or bevelled faces, substantially in the manner described.

Also, connecting the holder to which the article to be ground is secured to the lever F by means of a universal joint, substantially in the manner and for the purpose described.

Also, in combination with a holder suspended to a universal joint, as described, the adjustable lever F, for the purpose of adapting the machine to the wear of the grindstones, or to stones of different dimensions, substantially in the manner described.

Also, in combination with a grinding and polishing machine, and with a holder, as above described, the pattern plates, Figs. 7, 8, 9, or other equivalents, for the purpose of automatically grinding or polishing plates to different patterns, substantially as described.

No. 31,076.—WILLIAM COMBS,, of Duquoin, Ill.—*Improvement in Corn-Planters.*—Patent dated January 8, 1861.—This invention consists of a frame mounted on sleigh-run-

ners, and having on it a hopper containing the corn, said hopper being provided with a valve. A roller on the side of the machine is attached by a lever to the valve in such a manner that when the roller falls into the furrows the valve is opened.

Claim.—The arrangement of the shaft *g* with the sleigh, the ground, the hopper box D, and the lever F, in the relation described for the purpose specified.

No. 31,077.—JOHN JAMES DOYLE, of New York, N. Y.—*Improvement in Hoisting Device.*—Patent dated January 8, 1861.—The lower pulley is movable, and to it the weight is attached. When the upper pulleys are made to revolve the endless chain which passes over both pulleys becomes slackened to an extent equal to the difference in diameter between the pulleys, and the attached weight is raised correspondingly. The guide rollers remove the slack of the chain out of the way.

Claim.—The employment or use of the pulleys *a b* placed on the same shaft, and having different diameters, in connexion with the endless chain B, or an equivalent rope or band, arranged and applied substantially as for the purpose set forth.

Also, in connexion with the pulleys *a b* and chain B, or its equivalent, the pulley *e*, and guide rollers *g g h*, arranged in relation with the chain B, to operate as and for the purpose set forth.

No. 31,078.—JOSEPH H. GLOVER, of Glasgow, Ky.—*Improvement in Mill Gearing.*—Patent dated January 8, 1861.—The main spur-wheel is firmly keyed to the shaft. The adjacent geared wheels on each side are not keyed to the shaft, but firmly clamped against the sides of the main wheel. The arms projecting through the slots are adjusted by the set screws, so that the outside wheels can have a slight rotary motion. In this manner, when the distance between the cogs on the wheels is increased by wear, the side wheels can be set back, and the distance diminished. The brace-rods, which pass diagonally through the tie-wheel, strengthen the shaft so as prevent vibratory motion.

Claim.—First, the auxiliary spur-wheels A A′, in combination with the middle or main spur-wheel B, the arms *b b b b*, set screws *i i i i*, slots *g g g g*, and clamping bolts *c*, all arranged and made to operate substantially as and for the purposes set forth.

Second, the eyes *k k k k*, diagonal brace-rods G G G G, with their turn-buckles, in combination with the middle tie H and shaft C, arranged as and for the purposes specified.

No. 31,079.—ISAAC GRIFFIN, of Milford, Ga.—*Improvement in Cotton Presses.*—Patent dated January 8, 1861.—The screw forces down the movable platform, and by means of the arms which are attached to it pressure is communicated to the sides of the boxes which contain the cotton.

Claim.—The combination and arrangement of the screw B, movable platform E, arms F, and pressing-blocks G with boxes H, as and for the purposes set forth and described.

No. 31,080.—JAMES HIGGIN, of Manchester, England.—*Improvement in Stopping and Starting Cars.*—Patent dated January 8, 1861.—The car wheels are made of large diameter, and without flanges. Attached underneath the carriage, on each side, and extending along its whole length, is a bar of iron, provided with a flange, which fits on the angular flat rail. A rod, which is made to rotate by an auxiliary engine, extends underneath the carriage, and is provided with wheels bearing against the nuts or screws which sustain the bearing of each axle. In this manner the carriage is lowered down from its working position, so that the flanged rod rests against the rail, and thus arrests motion.

Claim.—The improved mode of retarding and stopping railway carriages shown and described, or any modification of the same whereby the carriage is lowered on to the rails of the permanent way.

No. 31,081.—WILEY P. HIX, of Rome, Ga.—*Improved arrangement of Flues for Drying Tobacco.*—Patent dated January 8, 1861.—The object of this invention is to arrange a number of flues in a dry-house in such a way that, by being provided with suitable dampers the heat may be equally distributed or directed from one part of the dry-house to another as occasion may require, and the heat placed under the complete control of the attendant.

Claim.—The employment in the drying of tobacco of a system of flues, B B′ C, and chimney D, with dampers, E F F′, arranged and operating together within a suitable enclosure, A, as and for the purposes shown and described.

No. 30,082.—WILLIAM HOTINE, of Brooklyn, N. Y.—*Improved Machine for Mixing Dough.*—Patent dated January 8, 1861.—The different substances are placed in hoppers, and fed into the trough. When in the trough, a series of knives, placed spirally around a rotating shaft, in connexion with arms, effectually knead the dough, which is forced out in a compact form through a spout by the packer, which is a plate radially cut so as to form a spiral.

Claim.—The combination and arrangement of the feeding devices in hoppers A B C, the face plate I, the mixing devices and packer L in the trough G, substantially as and for the purpose specified.

No. 31,083.—JAMES INGRAM, of New York, N. Y.—*Improved Water-Back for Cooking Ranges.*—Patent dated January 8, 1861.—This invention consists in an improved manner of mounting, fitting, and actuating the water-back whereby the same can be moved with facility, for introducing the soapstone or fire-brick, or removing the same, so as to bring the water-back to its place against the fire.

Claim.—First, the movable water-back *e*, when sustained by the roller 2 2, and actuated by the lever *h* and rod *i*, as and for the purposes specified.

Second, the arrangement of the movable plate 1 and finger 8 relatively with the movable water-back *e*, for the purposes and as specified.

Third, the hollow or faucet hinges *p p*, combined with a movable water-back, whereby the said water-back can be turned toward or away from the fire without bending or springing the pipes, as set forth.

No. 31,084.—JOHN F. KELLER, of Greencastle, Pa.—*Improvement in Machines for Sowing Fertilizers.*—Patent dated January 8, 1861.—The spiked rollers are so arranged that the bevelled spikes may press into the discharge openings, and thus prevent clogging. The feed-slide passing over the discharge openings is attached to a lever operated by the hand of the driver, and thus the distribution of the fertilizer can be regulated. The removable connecting rods attached to the elbow on the universal joint allow the machine to be drawn along without a corresponding movement of the distributing parts.

Claim.—First, the arrangement of a series of spiked rollers B, when placed vertically, and moved through a partial revolution by a reciprocating motion, substantially as set forth.

Second, the use of the clearers H and the feed-slide R, (Figs. 5 and 6,) provided with the peculiar openings G, substantially in the manner and for the purposes described.

Third, the arrangement of the removable connecting rods E and W, in combination with elbow X and the universal joint, substantially as described, for the purposes specified.

No. 31,085.—E. W. KIMBALL, of Ottawa, Ill.—*Improvement in Cotton-Planters.*—Patent dated January 8, 1861.—This invention consists in the use of a reciprocating seed-slide, in connexion with valves placed in the lower parts of the seed-tubes, and operated by a lever in such a manner that when the feed-slides are open the valves are shut. Indicators are connected to the valves, so that the operator can instantly detect any failure in the dropping apparatus.

Claim.—The reciprocating seed-slides *d d* and valves I I, when the latter are operated by the projections *j*, on the slides *d*, and springs *i*, on the rods J, and the latter provided with indicators or rods L, all arranged as and for the purposes set forth.

No. 31,086.—DAVID PARDEE, of Carlyle, Ill.—*Improvement in Seeding Machines.*—Patent dated January 8, 1861.—Upon the bottom of the hopper is placed a circular plate of iron, provided with holes around its periphery. This plate is cogged, and caused to revolve by a spring pawl, operated by a connecting rod and ratchet cam upon the driving-wheel of the machine, so that seeds are dropped through as each hole is brought in succession over the dropping-tube. A hooked arm, operated by a pitman and shaft, forces the seed through the holes in the plate.

Claim.—The arrangement of the perforated ratchet distributing-wheel H, cut-off brush I, spring-pawl J, spout F, coulter E, and hopper G, with the sliding-bar L, springs K *e*, arm *g*, cam C, pivoted guides *f f*, shaft *i*, hook-arm M, and recess *j*, all as shown and described.

No. 31,087.—JAMES C. PEASE, of Sycamore, Ohio.—*Improvement in Field Rollers.*—Patent dated January 8, 1861.—The forward roller is connected to the rear ones by a swivel joint, which permits of the whole being readily turned and operated.

Claim.—The arrangement of rollers R R′ R″, swivel-frame *f*, shaft S, braces B B, strap C, and tongue T, as and for the purposes set forth.

No. 31,088.—WORDEN P. PENN, of Belleville, Ill.—*Improvement in Seeding Machines.*—Patent dated January 8, 1861.—The cleaning-pins are attached between the arms of the feeding-wheels, and are designed, by communicating a stirring motion to the grain, to free it from straw. A fender, slightly inclined and placed above the wheels, prevents clogging. The revolving coulter is attached to the drag-bar in advance of the flukes, which allows them to pass easily through any kind of ground.

Claim.—The joint arrangement of the cleaning-pins *a a a*, the feeding-wheel E, the fender F, and revolving coulter C, in the manner described.

No. 31,089.—W. B. QUARTON, of Carlinville, Ill.—*Improvement in Seeding Machines.*—Patent dated January 8, 1861.—A number of wheels are placed side by side on a fixed shaft behind the seed-tubes, each of which is capable of a motion independent of the cutters, and so constructed and placed on the shaft as to rise or fall and accommodate themselves to the inequalities of the surface of the ground independently of each other, while they will each form a deep and sloped furrow and corresponding ridge, and thus press the seed completely into the soil.

Claim.—The arrangement of the rods E′, cutters D, axle D′, oscillating shaft D″, rod *d*,

lever E, seed box B, rollers J, hub *c*, and hinged pivoted lever *h*. all as shown and described, for the purposes set forth.

No. 31,090.—GELSTON SANFORD, of New York, N. Y.—*Improvement in Horse Powers.*—Patent dated Januay 8, 1861.—The frame with its rim is so constructed that, by unscrewing the bolts by which it is held to the bed, the frame can be turned around so that the belt pulley is made to run a shaft set at different relations to the main bed of the driving machinery. When necessary, more than one shaft, for operating different machines set at different relations to the bed frame may be employed.

Claim.—The manner of arranging the frame L, rim J, and spider K, with the bed frame A of the machine, for the purpose of revolving the frame L, and belt pulley, so that the power can be applied to a shaft or shafts standing in different relations to the driving machine, as set forth and described.

No. 31,091.—WILLIAM H. SAUNDERS, of Hastings, N. Y.—*Improvement in Couplings for connecting Thills to the Axles of Carriages.*—Patent dated January 8, 1861.—The coupling with the pin of the clip being effected by the centre piece and strap surrounding it, and with an elastic tube interposed and in a compressed state, the jar, rattle, or wear of the metal parts is avoided, while the shafts will be free to vibrate up and down, and the elastic tension secures a constant griping of the bolt.

Claim.—The combination of the centre-piece, strap, elastic tube, and pin of the clip, substantially as specified, whereby the tension of the elastic tube causes the centre-piece and strap between which it is compressed to gripe and hold the bolt. or equivalent, by which they are secured to each other, as set forth.

No. 31,092.—ALFRED E. SMITH, of Bronxville, N. Y.—*Improvement in Railroad Car Axles.*—Patent dated January 8, 1861.—The bar of iron is welded into the desired shape by rollers, and thus the weakening produced by long continued forging is avoided. The cylindrical cut bearings are welded on to the ends of the axles. This form of axle, it is claimed, will oppose great resistance to any transverse strain, with a small amount of metal.

Claim.—The constructing of wrought iron or steel railroad axles by the arrangement of longitudinal ribs or bars of metal solidly united together at right angles to each other somewhat in the form of a cross, in the manner and for the purposes set forth.

No. 31,093.—B. C. SMITH, of Philadelphia, Pa.—*Improved mode of Constructing Iron Pavements.*—Patent dated January 8, 1861.—The recesses are made deeper than the projections are long, so that by moving any plate close to the one next to it, the projections on the other side will be removed from the corresponding recess: one side of the plate may thus be raised up, and the plate readily removed.

Claim.—An iron pavement composed of a series of plates laid a given distance apart from each other, and having projections and recesses so proportioned to that distance that the plates, when undisturbed, may form an unyielding pavement, and that one of the plates may be readily removed after a slight lateral movement of the adjacent plates, as set forth.

No. 31,094.—WILLIAM MCK. THORNTON, of Niles, Mich.—*Improved Machine for Creasing and Finishing Leather Straps.*—Patent dated January 8, 1861.—The end of the strap is passed between the unequal rollers, and by turning the crank the strap will pass through by the friction of the lower wooden roller; the upper roller revolves faster than the lower one, giving the strap a sleek, compressed appearance, and bringing it out sleeked, creased, and finished, ready for stitching.

Claim.—The combination of the unequal rollers F and J, operated in the manner and for the purposes set forth.

No. 31,095.—PIERRE D. VAN HOESEN, of New York, N. Y.—*Improved Sad Iron.*—Patent dated January 8, 1861.—This invention consists in the arrangement of a wooden handle which can be readily attached to the body of the iron and taken off from the same, and which is provided with a protecting plate or shield in such a manner that the handle can be brought down as close to the body of the iron as the thickness of the fingers and of said shield will allow, without exposing the hand of the operator to the radiating heat.

Claim.—A handle B, for a sad iron which is provided with a shield C, and which is attached to the iron by means of square pins *c c* and lugs *a a'*, and locked by a drop catch D, in the manner and for the purpose set forth.

No. 31,096.—ELLIS MICHAEL, assignor to ANDREW FREE and J. W. FREE, La Porte, Ind.—*Improvement in Grain Separators.*—Patent dated January 8, 1861.—In the upper part of the shoe is an inclined apron provided with ribs or slats diverging from their inner ends, and extending from a point directly underneath the discharge orifice of the hopper. Parallel slats are also secured to the screen G', and to the chess-board at the rear end of the shoe, the object being, in connection with the shake motion, to spread the grain so that the grass seed shall be separated from the grain before the latter is subjected to the blast.

Claim.—The slats *i k k'*, placed respectively on the apron E, screen G', and chess-board J', where said parts are arranged relatively with each other, the fan D and the screen F to operate as and for the purpose set forth.

No. 31,097.—PURCHES MILES, of New Haven, Conn., assignor to PLANT'S MANUFACTURING COMPANY, of Southington, Conn.—*Improved Meat Cutter.*—Patent dated January 8, 1861.—The meat is forced by the rotatory forcing flanches and grooves between the revolving beater and stationary cutters, and thus finely minced.

Claim.—The combination of the rotary spiral forcing flanges F, and grooves *h*, with the revolving beaters E, and stationary cutters D, in the manner and for the purposes shown and described.

No. 31,098—PURCHES MILES, of New Haven, Conn., assignor to PLANT'S MANUFACTURING COMPANY, of Southington, Conn.—*Improved Cutting and Grinding Aparatus.*—Patent dated January 8, 1861.—This invention consists in the employment of a series of stationary cutters and revolving beaters or feeders placed on one and the same shaft, and with a suitable concave or shell whereby the cutting apparatus may be regulated whenever desired, in order to always preserve a cutting action similar to that produced by ordinary shears.

Claim.—The combination of the spiral knives *i j*, and the rotary cutter head B, with the spiral gooves *c*, and the longitudinal grooves *h*, of the concave A, in the manner and for the purposes shown and described.

No. 31,099.—S. C. ABBOTT, of Zanesville, Ohio.—*Improvement in Projectiles for Ordnance.*—Patent dated January 15, 1861.—The screw plug inserted in the conical end of the projectile is made in two sections. Three passages extend from end to end of the rear section, the central passage being designed to admit air into the shell and between the grains of powder in its flight, and the side passages for conducting the fire of an exploding cap to the charge of the shell. The spiral planes are for the purpose of causing rotation by the friction of the atmosphere, as presenting a more regular surface for resistance than raised wings or sunken grooves. A ring-shaped wafer cap is placed between the two sections of the screw plug so as to be exploded by the concussion of the sections when the shell strikes an object.

Claim.—First, so constructing the shell that it charges itself, or the interstices between the grains of powder with which it is loaded, with atmospheric under pressure as it flies through the air, and at the moment of contact with a resisting object confines said compacted or compressed air substantially as and for the purposes set forth.

Second, the spiral planes C on the conical front portion of the shot or shell in the described combination with the cylindrical rear portion, for the purposes explained.

Third, constructing the screw plug which conducts the fire of the cap to the interior of the shell in two parts, and fitting one part over the air nipple of the other part, substantially as and for the purposes set forth.

Fourth, the employment between the shell and the inner circumference of the gun of a self-detaching wedge-shaped spring packing strip, bent into the form of a ring, said strip being formed of leather, gutta-percha, or other similar flexible substance which is softer than the metal of the gun, and rendered solid by means of soft metal plugs or rivets driven through its thickest edge, substantially as and for the purposes set forth.

No. 31,100.—JAMES ADAMS, of New York, N. Y.—*Improvement in Hydrometers.*—Patent dated January 15, 1861.—The construction of this device is designed to render it less liable to a change of form by careless use, the metal stem admitting of a more accurate graduation than when the device is made wholly of metal or rubber.

Claim.—The construction of a hydrometer or other instrument for ascertaining the specific gravity of liquids, substantially as described, by combining with its bulb and lower part, made of hard vulcanized India-rubber or gutta-percha, a graduated upper stem made of metal.

No. 31,101.—J. T. D. ALEXANDER, of Maryenna, Texas.—*Improvement in Cultivators.*—Patent dated January 15, 1861.—The bars connecting the two parts are curved so as to pass over cotton plants, &c., and their ends are secured by wedges to the frame in such a manner as to admit of adjustment as to width. The beams are supported on wheels, and admit of vertical adjustment.

Claim.—The arrangement of the beams A A, the bars B B and H H, as constructed, the shanks F F, the wheels D D, and the slotted crank axles E E, the whole being arranged and connected in the manner and for the purpose specified.

No. 31,102.—T. F. ALLEN, of Dyersville, Iowa.—*Improvement in Springs for Railroad Cars.*—Patent dated January 15, 1861.—This invention consists in the mode of arranging and holding together metallic plates and cross-bars or fulcra so as to form a car spring, which works without producing sliding friction between its parts, or abrasion by coming in contact with any part of the truck frame or body.

Claim.—So arranging the plates and cross-bars above each other, and holding the same to-

gether that the plates are sprung, when the spring is in action, from the base to the top of the pile over and under the central cross-bars, and while being thus sprung the ends of the plates approximate each other, both vertically and laterally, without touching any object or coming in contact with bolts passing through the pile or a frame confining them, substantially as and for the purpose set forth.

No. 31,103.—AMBROSE E. BARNARD, of Paterson, N. J.—*Improved Hose Coupling.*—Patent dated January 15, 1861.—The but is provided with a flange, forming a cap into which an India-rubber ring is inserted and fits in a groove in the but, which allows the edge of the shank of the ring to contract within the but, so that the cap or head when the but is inserted will not strike the edge, but have a bearing on the shank of the ring. The head is held in position by spring catches let into the lower part of the but, the catches being compressed by a clamp ring.

Claim.—First, the India-rubber ring C, made in the manner described, which constitutes an automatic or self-acting washer; second, in combination with the same, the but A, cap B, spring catches D D. and clamp ring E. arranged and operated as set forth and for the purpose described.

No. 31,104.—DENNIS S. BARTLETT, of Roxbury, Mass.—*Improved Weight and Hitch-Strap for Fastening Horses.*—Patent dated January 15, 1861.—This invention consists in placing within the weight or block a barrel and spring, which winds up the hitch-strap when it is released from the horse's head and retracts it into the hollow weight, where it is out of the way until again required for use.

Claim.—The combination of the weight A B with the hitch-strap D, barrel C, and spring E, the whole arranged and operating substantially as described for the purpose set forth.

No. 31,105.—J. H. BEAN, of Forreston, Ill.—*Improvement in Seed-Drills.*—Patent dated January 15, 1861.—The invention relates to the method of arranging the seed-hoppers and their connexion with rollers, both grain and grass seed being sown simultaneously. V-shaped scrapers are arranged at the back of the rollers, being curved to correspond with the rollers, so as to prevent clogging by dirt.

Claim.—The arrangement of the independently pivoted frame A and rollers B with the frame E and apparatus F G H J K, tubes *f* and curved bars *g*, as for the purpose shown and described.

In combination with the above I also claim the employment of the curved V-shaped scrapers D upon the rollers B, as and for the purpose shown and described.

No. 31,106.—M. C. BRELSFORD, of Girard, Ill.—*Improvement in Rakes for Reapers.*—Patent dated January 15, 1861.—This invention relates to that class of raking devices in which a vibrating rake is employed, and so operated as to pass over the platform in the arc of a circle and rake the cut grain therefrom, the rake rising at the termination of its backward stroke above the platform and proceeding to the front end to again descend and perform its work.

Claim.—The combination, substantially as shown and described, of the rake-bar F with a pitman rod E, that has one end attached to a driving crank, while the other end slides through a strap or eye upon the frame or equivalent support, so that when the driving crank is revolved the said rod E will be caused alternately to rise and fall, and also to move back and forth, and impart a corresponding movement to the rake-bar, whereby the rake is made to sweep across the surface of the platform, then rise, then move forward, then descend to the platform, and then sweep as before.

No. 31,107.—LEWIS B. BROWN, of Scriven county, Georgia.—*Improvement in Cotton-Seed Planters.*—Patent dated January 15, 1861.—A centre wheel, provided with short arms, is made to carry the seed down through the hopper. A sliding rack, provided with pins inclining inwardly and covering the distributing wheel, receives a reciprocating motion from the driving wheels, causing an even distribution of the seed.

Claim.—The sliding rack F F, with inclined pins *i i*, in combination with the distributing wheel R and driving wheels 3 3, the whole constructed and arranged substantially as and for the purposes set forth.

No. 31,108.—JOSHUA F. CAMERON, of Livingston county, Missouri.—*Improvement in Subsoil Ploughs.*—Patent dated January 15, 1861.—The parts are so constructed and arranged that the rotary coulter can be raised or lowered, the mould-board readily taken off, and the standard and cutter easily taken apart.

Claim.—Beam A, clevis *x* and *y*, rotary coulter B, standard F, cutter D, with its clevis T, wedge *z*, brace *c*, hook *k*, and mould-board E, when these several devices are constructed and arranged in the manner and for the purpose set forth.

No. 31,109.—JOSHUA F. CAMERON, of Bedford, Missouri.—*Improvement in Devices for Securing Shields to Ploughs.*—Patent dated January 15, 1861.—This invention consists in

placing over the mould-board a revolving disk or shield arranged so as to be adjustable in height and in distance from the mould-board, thus causing the dirt to fall upon the roots or base of the plants instead of covering them.

Claim.—The arrangement of the revolving shield B, adjustable head *a*, bars C J and D, constructed and adjustable in relation to each other in the manner described for the purpose specified.

No. 31,110.—JESSE A. CRANDALL, of New York, N. Y.—*Improvement in Perambulators or Children's Carriages.*—Patent dated January 15, 1861.—A handle frame, carrying a guide wheel, is attached to a gig in such a manner that the gig can, by reversing this handle frame, be converted at pleasure into a perambulator or invalid's carriage. The handle frame is made adjustable so that it can be readily regulated to suit the height of the attendant who propels the perambulator, or to change the position from a sitting to a recumbent one to suit the occupant.

Claim.—First, the general form and arrangement of the handle frame with its wheel, substantially as described, whereby the same vehicle can be converted into a gig or a perambulator at pleasure.

Second, the special mode of clamping the handle frame in whatever position it is set, as described.

Third, the method described of increasing the adhesion between the sides of the handle frame and the face of the collar on the spindle.

No. 31,111.—T. B. DE FOREST, of Birmingham, Conn.—*Improved Instrument for Cleaning Lamp Chimneys.*—Patent dated January 15, 1861.—This invention consists in the combination of a removable fibrous envelope with a laterally expanding frame, formed of curved springs, with a handle attached, so that the soft envelope will be forced against the inner surface of the glass chimney.

Claim.—A wiping instrument for lamp chimneys, formed by the combination with a laterally expanding frame of a removable fibrous envelope, operating substantially as set forth.

No. 31,112.—W. A. DRYDEN, of Monmouth, Ill.—*Improvement in Cultivators.*—Patent dated January 15, 1861.—The object of this invention is to arrange a cultivator which allows of conveniently adjusting the shares to any desired depth and width, and which enables the operator to throw the shares out of the ground and to keep them elevated when it is desired to turn the machine or to move it from one field to another.

Claim.—The arrangement of the lever G with the dog *f*, in combination with the stop *g*, on the upper surface of the beam A, and with the plate *e*, at the under surface of the draught pole, constructed and operating as and for the purpose specified.

Also, the arrangement of the pin *j*, projecting from the beam A, in combination with a hole *k*, in the lever G, substantially as and for the purpose described.

No. 31,113.—GEORGE ESTERLY, of White Water, Wis.—*Improvement in Hand Rake for Reaping Machines.*—Patent dated January 15, 1861.—By inclining the handle relatively to the stale, cramping and twisting the wrist of the operator is prevented.

Claim.—First, the arrangement of the handle G obliquely to the stale F, for the purpose of adapting the rake to use by the attendant standing inclined centrally over the platform and grain thereon, substantially as set forth.

Second, graduating the length of the teeth F of the rake head, so that they correspond with the gradually increased thickness of the grain as it is deposited upon the platform, and cause the rake head to compress the grain equally from end to end, substantially as and for the purpose described.

No. 31,114.—A. FANCKBONER, of Schoolcraft, Mich.—*Improvement in Grain Separators.*—Patent dated January 15, 1861.—This invention consists in the arrangement and combination of a hopper, screens, and receptacles, for the purpose of separating fine seeds from the coarse and the different grades of fine seeds from each other.

Claim.—The arrangement of the screen 2, screen 3, receptacle 4, receptacle 7, spout 5, pipe 8, box 6, and drawer 9, in combination with the vibrating frame, containing the screens of a common fan mill, as set forth and described.

No. 31,115.—C. C. FRENCH, of West Stockbridge, Mass.—*Improvement in Corn Shellers.* Patent dated January 15, 1861.—A rotating disk-wheel, having toothed or picking surfaces, is arranged between two large rotating shelling-wheels, having sharp teeth projecting from their peripheries, and combined with two toothed cylinders arranged on an inclined plane in yielding frames on each side of the single disk-wheel. Each cylinder carrying frame is hung in such a manner that the pressure of the corn-cobs against the cylinders in the operation of shelling the corn from the cob will operate on bearings partially independent of the shaft of the toothed disk-wheel, thereby removing, to some extent, the friction of the cylinder frames from said disk-shaft.

Claim.—First, the rotating cylinder G, arranged on a yielding frame H, in combination

with the disk-wheel B' and shelling-wheel E; all constructed, arranged, and operating as set forth.

Second, hanging the longitudinal bars of frame H on the tubular bearing blocks *a* and *h*, so that the action of the ears of corn against the cylinder G will not cause any friction on the main shaft B, substantially as set forth.

No. 31,116.—GEORGE W. FURMAN, of Brooklyn, N. Y.—*Improved mode of Relieving Steam Cylinders of the water of condensation.*—Patent dated January 15, 1861.—As the water of condensation and steam passes from the cylinder to the trap F, the valve E is opened, and the steam entering communication pipe C, bears against the valve E' and keeps it closed, thus preventing the return of any steam from the trap to the cylinder, by which means the latter is relieved of condensed steam, and the engines of the back pressure of water.

Claim.—The combination of the steam cylinder A with the pipes B B, C, and D, valves E and E', and steam trap F, when the same shall be combined and operated as described and for the purpose set forth.

No. 31,117.—HOMER GILLET, of Lyndon, Ill.—*Improvement in Mole Ploughs.*—Patent dated January 15, 1861.—This invention consists in combining with an auxiliary beam, and main beam and adjustable mole tooth, a strong semi-elliptic spring and adjustable screw-shaft, for the purpose of adjusting the auxiliary beam, and at the same time keep the mole tooth up with the pressure of the spring against the crown of the channel.

Claim.—The spring K, or its equivalent, when used in combination with the beams G and B, and adjusting screw J, as set forth, for the purpose described.

No. 31,118.—JOHN GOODMAN and SAMUEL ROTE, of Lancaster, Pa.—*Improvement in Seeding Cultivators.*—Patent dated January 15, 1861.—This machine is designed to combine the operations of cultivating the plants, depositing the seeds of turnips or other kinds between the rows of corn, and rolling the surface.

Claim.—The combination and arrangement of the doubly adjustable scrapers S, with their slotted supports T, and the seeding roller B, hopper A, and appliances, when made and operated substantially as specified, for the purpose mentioned.

No. 31,119.—THOMAS HIGARTY, of St. Louis, Mo.—*Improvement in the Manufacture of Baskets.*—Patent dated January 15, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The use of broom corn and wire in combination with willow or ratan, substantially in the manner described, for the purpose of making a cheaper and more durable basket than can be made of willow or ratan.

No. 31,120.—DANIEL HERLONG, of Sandy Ridge, Ala.—*Improvement in Cotton-Seed Planters.*—Patent dated January 15, 1861.—The toothed shaft arranged across the bottom of the hopper is caused to rotate by means of two pawls in connexion with springs, acting upon ratchets secured to the shaft, the pawls being alternately actuated by pins on each side of a propelling wheel, for the purpose of insuring a uniform discharge of seed from the hopper.

Claim.—The combination of the pins c on wheel D, the springs F F; pawls G G, ratchets H H, and toothed shaft I, the latter placed within the hopper B, and all arranged for joint operation as and for the purpose set forth.

No. 31,121.—WILLIS HOLMES, of Macomb, Ill.—*Improvement in Windmills.*—Patent dated January 15, 1861.—On the inside of a flume or cylindrical casing, having one flaring end, and mounted in such a manner that it can rotate horizontally and always present its broad end to receive the current of air, are arranged a stationary and a rotating wheel, the former to regulate and direct the currents of air to the latter. With the flaring end of the flume are combined two sliding shutters, which will entirely or partially close the end of the flume. Two perpendicular wings, or shutters, are arranged in the back flume, and combined with a fan and spring in such a manner that the wings will spread out when the wheel revolves too fast and check the current of air, and thus serve to govern the motion of the wheel.

Claim.—The arrangement of the self-acting fan K and valves H H with the flume A, bar G, rods J J, spring box L, and wheel E, in the manner and for the purposes shown and described.

No. 31,122.—J. D. HOUSTON, of Pope's Depot, Miss.—*Improvement in Cotton Scrapers.* Patent dated January 15, 1861.—This invention consists in combining in one frame two rotary hoes and a double scraper, or two scraping wings of a peculiar construction, in such a manner, and in operating them in such a way, that the cotton plants will be left in hills of a few stalks, and the scrapers will thin out the sides of the hills, while the hoes will thin off the tops of the hills.

Claim.—The arrangement of the scollop-edged driver B', pinion C, rotary shaft H, and adjustable rotary hoes G G, with the adjustable scrapers D' D', frame A, wheels B B, and governing handles D D, as shown and described, for the purposes set forth.

No. 31,123.—GEORGE W. LEE and ADAM R. REESE, of Phillipsburgh, N. J.—*Improvement in Seeding Machines.*—Patent dated January 15, 1861.—This invention consists in an arrangement of devices for lifting the seed or furrow tube from the earth, and simultaneously arresting the delivery of the seed from the hopper.

Claim.—The arrangement of the devices, consisting of a wave wheel *c*, skeleton plate D, draw plate E, provided with a stud *f*, rods R and *g*, and feed bars I I′, substantially as described, when employed with a lifting board M, operating in the manner and for the purposes as set forth.

No. 31,124.—BERNARD MORONAN, of Brooklyn, New York.—*Improvement in Stopping and Starting Railroad Cars.*—Patent dated January 15, 1861.—The toothed racks move in slides, and are placed one above and the other below the axle, so that a pinion, which slides on the axle, can be thrown into gear with them, by means of a three-armed bell-crank lever. When the car is about to stop, the pinion is thrown into gear with the lower rack, which causes a compression of the springs, until the car stops. In starting the car, the pinion is shifted to the upper rack, causing a reverse action, and the strain of the springs tends to move the car forward.

Claim.—The arrangement of the racks G G′ with each other and with the sliding pinion H, in the manner shown and described, so that the teeth of the pinion, before fully leaving one rack, will necessarily engage with the teeth of the other.

Also, the arrangement of the spring teeth *p p* with the racks G G′, in the manner shown and described.

Also, the arrangement of the lip *o* and levers *g h i* with the slide E, pinion H, and racks G G′, in the manner and for the purposes shown and described.

No. 31,125.—JOHN W. NYSTROM, of St. Petersburg, Russia.—*Improved Apparatus for Docking Ships, &c.*—Patent dated January 15, 1861.—The pontoons are constructed in the from of a flat-bottom boat, with a close deck, and having near each end two upright towers, extending from the bottom to a considerable height above the deck, and connected below by a corridor. The remainder of the hull is divided into a number of water-tight compartments, which may be filled with water for sinking the pontoon, and emptied by pumps for floating it. In one of the towers are placed the pumps and the steam engine for driving the pumps and propeller, and in the other is the boiler.

Claim.—First, the construction of pontoons with communicating towers and corridors, arranged and operating substantially as and for the purpose specified.

Second, the combination with such pontoons of pumping and propelling machinery capable of operating together or independently, substantially as described.

No. 31,126.—EDWARD G. OLDFIELD, of Bordentown, N. J.—*Improvement in Machines for Making Brick, Tiles, &c.*—Patent dated January 15, 1861.—A series of propelling blades, connected by links to a fixed stud, which is eccentric to the shaft, force the clay through a contracted duct, by which it is consolidated and passes out through a die of the shape to be given to the brick or tile. A rupture of the duct is prevented by a safety pipe, kept in position by a strut, lever and weight; and to insure the uniform movement of the clay in passing through the die an air-vessel is made use of. The clay passes between rollers journalled in water-tight casings, which contain water for the purpose of lubricating the clay, when necessary.

Claim.—First, the propellers *i i*, travelling in the tapering duct *m*, in the manner specified, to compress and consolidate the clay, as set forth.

Second, the safety plate *u*, applied to the duct *m*, in the manner and for the purposes specified.

Third, the arrangement of the air-vessel *t*, rollers *u u*, and casing *v*, in combination with the die *s*, in the manner and for the purposes specified.

No. 31,127.—J. H. OSGOOD, jr., and F. B. SHAW, of Boston, Mass.—*Improvement in Railroad Car Couplings.*—Patent dated January 15, 1861.—The shackle-bar is provided near its mouth with a cross-bar held up by means of a bent rod and springs, so as to receive the notched coupling-link as it is forced in. The link is released by pressure upon the bent rod, which depresses the cross-bar below the notch in the coupling. The cross-bar may be removed, and the shackle-bar used, with the ordinary link confined by a vertical pin, if desirable.

Claim.—The combined arrangement of the V-shaped bar D, cross-bar C, and spiral springs *n n*, the whole constructed and operating as specified, and in connexion with the eyes *p* and *r*, for freight cars, as described.

Also, making the cross-bar C detachable or removable, to be employed in connexion with the hole S, when it is necessary to couple into a car having the ordinary coupling.

No. 31,128.—E. G. OTIS, of Yonkers, New York.—*Improvement in Hoisting Apparatus.*—Patent dated January 15, 1861.—The pawls and teeth are so arranged and constructed that, as the platform is drawn up, the pawls clear the teeth, but in case of the breaking of the rope, a spring immediately acts to press the pawls against the teeth, and prevents the platform from falling. The brake is made to be automatically and simultaneously applied with the stopping

of the rising platform, so that the latter may be stopped at any desired point. A counterpoise is attached to the main hoisting drum, instead of to the platform, so as not to interfere with the mechanism of the latter.

Claim.—First, having the pawls *f f*, and the teeth of the racks C C, hook-formed essentially as shown, so that the weight of the platform will, in case of the breaking of the rope G, cause the pawls and teeth to lock together and prevent the contingency of a separation of the same, as set forth.

Second, the arrangement of the ropes T U and V, combined and operating substantially as and for the purpose set forth.

Third, the arrangement of the slide or belt-shipper S, with the shoe or brake Z, and rope T, substantially as shown, to admit of the simultaneous application of the brake and the shifting of the belts O P on the idle pulleys J K, as set forth.

Fourth, attaching the rope Q of the counterpoise R to the drum H, on the opposite side from the lifting rope G, substantially as shown, so as to counterpoise the platform D, without preventing or interfering with the action of the safety mechanism E *e f*.

No. 31,129.—WORDEN P. PENN, of Belleville, Ill.—*Improvement in Seeding Ploughs.*—Patent dated January 15, 1861.—The claim and engraving will explain the nature of the invention.

Claim.—The described arrangement of wheels J and H, hopper box B, and spring M, behind the mould-board A, and against the land side of the plough, for the purpose of sowing broadcast or drilling the seed in the bottom of the furrow, the whole to be made, operated, and arranged substantially in the manner described.

No. 31,130.—WASHINGTON ROBERTS, of Roachport, Mo.—*Improvement in Covering Ploughs.*—Patent dated January 15, 1861.—The object of this invention is to cover the seed and press down the ground upon it by one operation, and it consists in the combination of two inwardly flaring shares, attached in an inclined position to the standard of a plough, with a pressing roller arranged close behind the shares and supported by pendants, which at the same time form braces for the shares.

Claim.—The arrangement of the inwardly flaring shares A, attached by means of the arm C to the inclined standard B, in combination with the pressing roller F, supported by pendants *c*, the whole being constructed and operated as and for the purpose set forth.

No. 31,131.—B. C. SMITH, of Burlington, N. J.—*Improved Pavement and Railway combined.*—Patent dated January 15, 1861.—The object of this invention is to form a combined pavement and railway, over and across which ordinary vehicles can easily pass.

Claim.—A cast-iron pavement composed of solid plates, each plate having a longitudinal rib or ribs A, forming a rail for car wheels, and transverse ribs B and C, or their equivalents, when the upper surface of the rail is level with that of the said transverse ribs, and when the latter are cut away near the rails, as set forth, for the purposes specified.

No. 31,132.—W. H. SMITH, of Wyanet, Ill.—*Improvement in Cultivators.*—Patent dated January 15, 1861.—This invention consists in so pivoting and bracing the rear stocks, or standards carrying the shovels to the cultivator frame, and attaching said stocks to the handles of the cultivator, that the rear shovels may be moved laterally while the cultivator is being drawn through the field, and thus made to work up close to rows of plants which are irregularly laid out.

Claim.—The brace rods *g g*, pivoted pieces *h h*, notched plates *k k*, and arms *m m*, in combination with the pivoted shovel stocks E E and handles G G, all arranged and operating substantially as and for the purposes set forth.

No. 31,133.—DANIEL S. SAFFORD, of Decatur, Ill.—*Improvement in Cultivators.*—Patent dated January 15, 1861.—On the main frame is fastened a segment, over which moves another segment, attached to the rear of the tongue. Upon the upper segment are two projections, against which the operator may place his feet, both for a support and to clamp the main frame on the tongue. The axle on each side of its centre has three bends, so that it will form a lifting lever for the main frame, and may be readily operated by the driver in his cut.

Claim.—In combination with the driver's seat and a tongue pivoted to the main frame, the arc *d*, with its projections or braces *e e*, so that the driver may, from his seat, cramp the main frame on the tongue, to cause it to follow the crooks in the row of plants, substantially as described.

Also, in combination with the seat and main frame, the construction and arrangement of the bent axle, for the purpose of allowing the driver to use the axle itself as a lever to raise or lower the frame upon itself, substantially as described.

Also, the long bent share blades or cutters H, for the purpose of cutting under and throwing the loosened soil towards the plants, when combined and arranged with a frame such as described and represented

No. 31,134.—C. C. SPRINGFELLOW and D. W. SURLES, of Lumpkin, Ga.—*Improved Mode of Hanging Carriage Bodies.*—Patent dated January 15, 1861.—This invention consists in the combination of transverse tie rods with the side springs, which are hung by shackle bars or jointed links from C-shaped supports.

Claim.—The transverse ties G G, arranged and operating substantially as and for the purposes specified.

No. 31,135.—JOHN WILKINSON, of Baltimore, Md.—*Improved Dumping Wagon.*—Patent dated January 15, 1861.—The construction of this wagon admits of dumping on one side, and the progress of the body being suddenly checked as the retaining bolt strikes the angular portion of the rail, gives the load a fling from the body. The body, on being pushed back, is retained by a spring catch.

Claim.—Supporting the body *a* upon arched railway guides *b*, as set forth, and, in combination therewith, I claim the triangular anti-friction yoke *c*, as set forth.

Also, the self-locking catch *h*, arranged and operated as set forth.

No. 13,136.—LORENZ WOLF, of Hamburg, Mo.—*Improvement in Ploughs.*—Patent dated January 15, 1861.—The standard is raised or lowered by means of a key, for the purpose of depressing or elevating the point of the share. The strap which holds the clevis extends back, and is connected to a plate, through which the standard passes underneath the plough beam. In the back end of this plate there is a lug, through which passes a screw, which operates to turn the rear end of the plate to either side upon the standard, and serves to shew the point of the ploughshare to the right or left.

Claim—The arrangement of the standard H, the plate D, the lug I, and screw C, in connexion with the plough beam and the plough, substantially in the manner described, for the purpose specified.

No. 31,137.—W. C. WRIGHT, of New York, N. Y.—*Improvement in Car Brakes.*—Patent dated January 15, 1861.—One of the axles is provided with a pinion, on each side of which is a cam. The cams are caused to throw the pinion into gear with a rack above or below the axle, according to the direction of the moving car, by which means a spring, placed in the rear, is compressed, and the car stopped. On starting the car, the opposite rack is thrown into gear with the pinion, the first one being disengaged, which releases the compressed spring and causes the axle to turn, and thus start the car.

Claim.—The spring M, rod N, pinion D, and the two racks P Q, when the latter are arranged or used in connexion with the cams E E', bars F G I J, and levers H K, or other equivalent devices for operating them, as and for the purposes set forth.

No. 31,138.—NEHEMIAH S. BEAN, of Manchester, N. H., assignor to the AMOSKEAG MANUFACTURING COMPANY, of same place.—*Improvement in Steam Fire Engines.*—Patent dated January 15, 1861.—The tube which extends from the boiler is made to serve the purpose of a "perch pole," to which the wheels are connected, and is bifurcated so that its capacity may be employed not only for tank purposes but also for the vacuum and air chambers of the pump.

Claim.—The bifurcated arrangement of the tubular metallic perch pole or fore body, whether the same is divided into compartments or not.

No. 31,139.—WILLIAM BRAIDWOOD, of Mount Vernon, and RICHARD WHITING, of Brooklyn, N. Y., assignors to THOMAS HOLMES, of Brooklyn, N. Y.—*Improvement in Operating Slide-Valves of Engines and Pumps.*—Patent dated January 15, 1861.—This invention consists in the combination of direct acting levers with the slide-valves, the parts being so constructed that the levers, being acted upon by the piston near the termination of each stroke, communicate a direct movement to the valve, and open the port of the steam or water at one end and the exhaust port at the other end of the cylinder; thus all stuffing boxes and secondary valves are dispensed with, the valve itself covering the openings for the levers.

Claim.—The combination of the direct acting levers *f* or *f'* with the slide-valve *h* or *h'*, the parts being constructed as specified, so that the valve covers the openings through which the levers pass, and renders separate packings or stuffing boxes unnecessary, as set forth.

No. 31,140.—PETER LOUIS, of New York. N. Y., assignor to Himself and HIRAM WANDEL, of Castleton, N. Y.—*Improvement in stopping and starting Railroad Cars.*—Patent dated January 15, 1861.—This invention consists in the arrangement of two ratchet wheels, which have their teeth pointing in opposite directions, one of which is fast on the axle of a railroad car, while the other turns loosely on the same, in combination with two serrated bars or racks, one of which is above and the other below the axle, and with a spring, in such a manner that, on fastening the loose ratchet wheel by means of a suitable clutch, the momentum of the car strains the spring, and the resistance of the spring causes the car to stop. The clutch being withdrawn from the loose ratchet wheel, the force of the spring is exerted on the fast ratchet wheel, and the axle is turned in that direction in which it is desired to start the car.

Claim.—The combination of the pivoted slotted rack E′ and the pivoted rack D′ with each other, and with the dog *f*, ratchet wheels D E, axle C. clutch F, and spring G, in the manner and for the purpose shown and described.

No. 31,141.—GEORGE H. REISTER, of Washington, Ia., assignor to Himself, E. CADWALLADER and L. S. BUTTERFIELD, of same place.—*Improvement in Windmills.*—Patent dated January 15, 1861.—This invention consists in an arrangement of a series of rigid guides and a series of movable guides, by which the wind is always so directed, no matter what may be its natural track or line, as to strike the wings of the wheel at, or nearly at, right angles to their faces; the amount or volume of wind passing on to the wings being also controlled.

Claim.—The series of movable curved guides and fixed curved guides as they are arranged and operated in relation to each other and to the wheel, as set forth.

No. 31,142.—H. B. WEAVER, of South Windham, Conn., assignor to Himself, and W. H. STRONG, of North Castle, N. Y.—*Improvement in Machines for Dressing Millstones.*—Patent dated January 15, 1861.—At every revolution of the shaft K, the screw V is turned a certain distance by the pawl X, which is operated through the medium of the disk Y, pin *d′*, and arm W. The rotation of the screw V feeds the sliding block N along on ways in either direction, according to the position of pawl X, which reverses the movement of the pick when it has reached its extent. A feed movement at right angles to the other is given to the pick by the screw B′, which is turned one revolution by hand at the end of each movement of the pick, so that the latter may cut in parallel rows. The length of each feed movement, at each revolution of the shaft, may be regulated by adjusting pins in the slots of the disks Y A′.

Claim.—The arrangement of the feed screws V B′, with the disks Y A′, arms W C′, pawls X D′, and sliding blocks M N, all arranged essentially as and for the purpose specified.

No. 31,143.—JOHN S. MACKAY, of Brooklyn, N. Y., assignor to Himself and HUGH MACKAY, of Norwich, Conn.—*Improvement in Mending Fire Engine Hose.*—Patent dated January 15, 1861.—This invention consists of a clamp, formed by two plates of metal with raised edges, the plates being made of similar size and form, so that the raised edges form a joint, and to be held together with one or more screws and nut or nuts, or their equivalent.

Claim.—Stopping rents or holes in hose and other elastic tubes or pipes, substantially as set forth

No. 31,144.—P. J. ACKERMAN, of Paterson, N. J.—*Improved Combination of Cooking Stoves and Air-heating Furnace.*—Patent dated January 22, 1861.—This invention consists in placing the fire-pot of the stove within the ovens, or having the former in direct communication with the latter, and having the ovens communicate with hot air pipes, so that no heat is lost by radiation, and the steam arising from the articles in process of cooking passes off with the hot air.

Claim.—The combination and arrangement of the ovens C C. fire-pot D. and chambers E H, as and for the purposes set forth.

No. 31,145.—WILLIAM R. AXE, of Beloit, Wis.—*Improved Clamping Machine for Carpenters.*—Patent dated January 22, 1861.—This invention consists in the employment of two or more ratchet bars, operated by a rock-shaft, having a crank-pin at either end (to which said ratchet bars are hung) in combination with the movable clamping jaw, and a suitable spring treadle for moving the rock-shaft; in connexion with the clamping jaws, adjustable dogs or bearing blocks are employed.

Claim.—The employment of the ratchet bars E E, in combination with the rock-shaft *b*, actuated by a suitable lever and the clamping jaws I and G, the former being provided with suitable pawls for engagement with the bars E, and the whole arranged and operating as described for the purposes set forth.

No. 31,146.—LOUIS BAUHOEFER, of Philadelphia, Pa.—*Improvement in Gum Shoes and Boots.*—Patent dated January 22, 1861.—This invention consists in combining with the heel or the sole, or with both, of an ordinary gum shoe or boot pieces of cork so as to present a surface, partly of cork and partly of gum elastic, for contact with the ground, thereby insuring that adhesion of the shoe to damp ice, and snow, and other smooth and wet surfaces, which is wanting in ordinary gum shoes and boots.

Claim.—The combining of pieces of cork with the heel or sole both of a gum shoe or boot, substantially in the manner set forth for the purpose specified.

No. 31,147.—A. JOHN BELL. of Ashland, Ky.—*Improvement in Steamboat Staging.*—Patented January 22, 1861.—The object of this invention is to secure a more rapid, easy, and effective means of shipping and unshipping the stage planks from steam water craft, and consists in a mode of operating said planks by connexion with one of the steam engines employed to work or load the vessel.

Claim.—The arrangement of the staging C, power windlass E F G H I. and supporting apparatus J K L, the whole being constructed and operating together, substantially as and for the objects set forth.

No. 31,148.—GEORGE BENNETT and ROBERT DALZELL, of Waddington, N. Y.—*Improved Machine for Tapping Nuts and Cutting Screws.*—Patent dated January 22, 1861.—The dies for cutting the threads on bolts (which operation is usually performed by a single die, and which requires to be reversed after the thread is cut to release the bolt) are made in three or more pieces, which are expanded or contracted at pleasure by eccentric grooves in which the heads of the dies work, and by which operation the bolt may be withdrawn after it is cut, without reversing the motion of the dies, and the nut may be cut at the same time by the same revolving shaft.

Claim.—The combination of the expanding die-box, the revolving plate or blank holder, and expanding bolt holder, when the same are arranged and constructed as shown, for the purpose of cutting screws and tapping nuts by the same machine, as specified.

No. 31,149.—ABIJAH E. BLOOD and JOSIAH B. BLOOD, of Lynn, Mass.—*Improvement in Sieves.*—Patent dated January 22, 1861.—Across the upper case, below the sieve and at right angles with its line of suspension, is a bent shaft, the opposite bends of which alternately raise and lower the two sides of the sieves.

Claim.—The arrangement of the shaft N, and the supports or bearings *c c* of the sieve, with respect to such sieve and its case, when the shaft N is constructed substantially as described and represented.

No. 31,150.—LOUIS A. BOISSON, of Lyons, France.—*Improvement in Ovens for Baking Fire Bricks.*—Patent dated January 22, 1861.—The smoke flue is placed under and very near the bottom of the oven, and enters the same on the opposite side from the furnace whence the products of combustion pass through the oven, thus economizing heat and preventing sudden changes in the temperature of the oven.

Claim.—The arrangement of the furnace or furnaces B B, heating flues C C, and escape flues D D, with respect to each other, and the arched chamber A, whereby the heat is first conducted beneath the hearth of the oven, and thence through the oven, all substantially as described.

No. 31,151.—WILLIAM CHESTERMAN, of Peosta, Ia.—*Improvement in Apparatus for Evaporating Saccharine Juices.*—Patent dated January 22, 1861.—Three shallow pans are arranged in any suitable horizontal relation to each other, and so that the contents of one may be drawn successively into the next. A continuous flue passes from the furnace under each pan, communicating successively with three separate chimneys, the first two chimneys being provided with dampers, and a damper being placed in the flue between the second chimney and third pan; the two latter dampers are operated by an automatic regulator, which is secured to one end of a lever; to the other end of this lever is suspended a float within an upright cylindrical vessel secured to the bottom of the last pan. The float is caused to rise by the ebullition of the water in the vessel produced by the heat of the juice in the pan, thus closing both dampers and checking the draft under the pans. As the juice becomes cool, the float descends and the valves are again opened.

Claim.—First, the arrangement of the train of pans A B C; the continuous flue D, running under the whole in succession, and a chimney at the end of each furthest from the fire, substantially as described.

Second, the arrangement of a water vessel I, float J, and lever K, with the pans, flues, and chimney dampers of a sugar evaporator, in the manner substantially as shown and described.

No. 31,152.—G. F. J. COLBURN, of Newark, N. J.—*Improved Evaporator for Hot Air Pipes.*—Patent dated January 22, 1861.—This invention consists of a vessel designed to contain water, and to be placed in the mouth of a hot air pipe near the register. This vessel is made in two parts, the outer one of which consists of some porous material which allows the percolation of water, and the inner part is a perforated tube for holding a fibrous material capable of raising water by capillary attraction, by which means the air is moistened and dust is arrested, and the surrounding wood work is rendered less liable to become overheated.

Claim.—First, the arrangement of the reflector C, in combination with the evaporating vessel A, and hot air pipe B, as described, for the purpose of facilitating the evaporation, and to prevent the dust rising into the apartment.

Second, constructing the vessel A of two parts *a* and *b*, the part *a* to be made of porous material, and the part *b* to contain a lampwick or its equivalent, substantially as and for the purpose set forth.

No. 31,153.—GEORGE COOPER, of Thompsonville, Conn.—*Improvement in Needles.*—Patent dated January 22, 1861.—This invention consists in constructing the eye by turning over the end and forming a lap joint, through which the thread may be drawn, without the necessity of inserting the end of the thread in the ordinary way.

Claim.—As a new article of manufacture, the sewing needle described in the specification, and represented in the drawing.

No. 31,154.—REUBEN DANIELS, of Woodstock, Ver.—*Improvement in Machines for reducing fibrous Material.*—Patent dated January 22, 1861.—The working face of each of the two fibre separating wheels is made concave, and provided with peculiar, sharp pointed teeth secured thereto, and angular with their face surfaces. The lower or revolving wheel has a cavity formed in it to hold water for saturating the material as it is fed therein, the water being caused to have a free circulation between the wheels. A powerful current of air is also made to pass between the wheels. The fibre when separated is skimmed from the water.

Claim.—In fibre separating wheels like M and N, providing the working face of each with pointed teeth, *a* and *c*, or their equivalents, secured thereto, and set substantially in the manner described, when operated with a current of fluid passing freely through and towards the periphery, to separate worn-out cloths and fibrous material, to reproduce (and not destroy) the longest possible staple in a suitable state for carding, these wheels being made adjustable to and with each other, substantially as described and for the purposes set forth.

No. 31,155.—N. E. DOANE, of Hannibal, Mo.—*Improvement in Weighing Carts or Wagons.*—Patent dated January 22, 1861.—This invention consists in a series of levers and frames, with a graduated beam, so applied to a wagon that upon withdrawing a rod the load of the wagon may be accurately weighed.

Claim.—The lever frames G G, rod H, parallel bars D D, levers I J, graduated beam K, and frame L, combined, arranged, and applied to a cart or wagon, as and for the purpose set forth.

No. 31,156.—THOMAS EARLE, of Worcester, Mass.—*Improvement in Sewing Machines.*—Patent dated January 22, 1861.—The feeding hand receives its vibratory motion from the nippers through an adjustable link which is pivoted to the feeding hand at one end, and connected with the nippers at the other by means of a pin passing through an elongated slot cut in the lower branch of the shank of the nippers. An elongated slot is made through the shank of the feeding hand through which the pivot confining it to the front plate passes. This slot admits of the hand moving up and down. A cavity is made in the centre of the lower portion of the feeding hand to receive a spiral spring, and extending from this spring is a rod which, through the medium of the spring, is caused to bear on the pivot and draw the hand down. The shaft of the pressure pad is hollow, and in the cavity is a spiral spring for holding it down, the upper end of which spring bears on a pin passing through the shaft and shaft guide, and the lower end rests on a rod, from which extends a pin passing through a slot in the side of the shaft. To this pin a clamp nut is attached, which, in connexion with the rod, serves to adjust the pressure of the pad to different thicknesses of cloth.

Claim.—First, the combination of the feeding hand and nippers with a connecting adjustable link, constructed and arranged as described, whereby a positive lateral vibratory motion is communicated directly from the nippers to the feeding hand.

Second, the combination of the feeding hand, constructed and arranged substantially as described, with an interior spring so arranged as to act on the hand to draw it down in line with its centre of motion.

Third, the combination of the pressure pad with the interior spring and sliding rod and clamps, the whole arranged substantially as described for the purpose set forth.

No. 31,157.—LEWIS EIKENBERRY, of Easton, Penn.—*Improvement in Iron Bridges.*—Patent dated January 22, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—First, a side frame for a bridge having its diagonal braces or diagonals and uprights constructed of angle iron, substantially as and for the purposes set forth.

Second, the combination of double angle iron or U-shaped braces with single angle iron uprights or diagonals, substantially as and for the purposes set forth.

Third, a side frame for a bridge which has its uprights or diagonals constructed of U-shaped or double angle iron, substantially as described.

No. 31,158.—GEORGE ESTERLY, of White Water, Wis.—*Improvement in Harvesters.*—Patent dated January 22, 1861.—The claim and engraving will explain the nature of this invention, which does not admit of brief description.

Claim.—First, the combination with the joint *e d*, which allows the finger beam E to be adjusted in the path of a vertical circle of a curved slotted standard G *j*, the dividing apparatus and a set screw *k*, substantially as and for the purposes set forth.

Second, the combination of the angular adjustable bar M, curved slots *x x*, and axial pivots S3 and *y* and *a*, hinged platform K, substantially in the manner and for the purpose described.

Third, the combination with the slotted curved brackets of the angular supporting bar M, of a bracket P, a thrust screw Q, a pivoted lever H, and the divider F, substantially as and for the purposes set forth.

Fourth, the employment of the said pivoted lever H, in combination with the divider F, and the axle S3, of the grain wheel I, arranged substantially as and for the purposes set forth.

Fifth, the employment of the vertical pendant tension rod S2, in combination with the reel

bearer S, divider F, and the grain wheel axle S3, substantially as and for the purposes set forth.

Sixth, the combination with the divider F G, and inner adjustable wing J, of an outer adjustable wing J', arranged substantially as and for the purposes set forth.

Seventh, the combination of the short angular platform K, with the continuation L, and raker support L', facing the platform laterally; the continuation L forming the raker stand, and being located between the sill A' of the driving wheel frame, the driving wheel and the axle thereof, and otherwise constructed so that the raker shall be located between the front sill A' and the axle of the driving wheel, and be supported by the connexions which support the platform, substantially as and for the purposes set forth.

Eighth, the combination with the finger beam E and a platform K, hung on hinges V V of an adjusting screw rod N, which forms a hinge connexion, one or more knife edge bearings or pivots Z, one or more screws or bolts x' x', and a thrust plate or bar N', substantially as and for the purposes set forth.

No. 31,159.—GEORGE ESTERLY, of White Water, Wis.—*Improvement in Harvesters.*—Patent dated January 22, 1861.—By the arrangement claimed the grain is discharged with a short straight movement of the rake in an angular direction immediately between the platform and the driving wheel frame, by which the scattering of the grain and the labor in raking a long distance, as in long platforms, is avoided. The arrangement of the thrust or tension screw rod and curved brace with the dividing apparatus, grain wheel axle, and reel support, secures an unobstructed space beyond the front end of the divider to the rear end of the reel bearer, and prevents the weight of the reel from resting upon the finger beam, which causes the grain end to sag, the weight coming directly upon the axle.

Claim.—First, the arrangement of the reel and cutting apparatus obliquely to the side of the driving wheel frame and platform M P *n*, when the rear line of the platform is oblique to the driving wheel frame, and its inner corner terminates near the axle of the driving wheel, substantially as and for the purposes set forth.

Second, the arrangement of the thrust or screw rod I, and curved brace J, with the dividing apparatus, grain wheel axle *e*, and reel support *a*, substantially as and for the purposes set forth.

No. 31,160.—O. C. EVANS, of New York, N. Y.—*Improvement in Lamps.*—Patent dated January 22, 1861.—This invention consists in constructing in the ordinary coal oil lamp, (of which the chimney is an essential,) and around the wick tube, a gas chamber. To the upper part of this gas chamber (and forming a part of the same) are attached horns, having on the upper inner side each a slit, for the purpose of opening a gas and vapor communication between the gas chamber and the flame. The upper end of the wick tube is perforated with holes, or slotted openings, for the purpose of allowing the gasses and vapors which are liberated from the oil or fluid in the wick by the heat communicated thereto to freely pass into the gas chamber, and from thence out at the slits.

Claim.—First, the combination and arrangement of the gas chamber A, constructed with horns *t t*, and slitted openings, as described, with the openings of the wick tube a^1 a^2 a^3, &c.

Second, in combination with the gas chamber and openings in the wick tube of the guards *c c*, and petticoat cone D, the same being arranged in the manner and for the purposes set forth.

No. 31,161.—ISAAC N. FELCH, of Hollis, Maine.—*Improvement in Hub Machines.*—Patent dated January 22, 1861.—To a common turning lathe is secured, by means of a rod passing through the lower part, a frame which is made to swing towards or from the centre of the block to be turned. Within this frame is a sash provided with bars to receive the cutters, and made to slide up and down. An auger pressed up through a hollow spindle cuts through the centre of the hub.

Claim.—The combination lathe attachment, the arrangement of the reciprocating knife frame, and the vibrating swing feed frame, in the manner and for the purposes set forth, and boring the hub while it is being turned by pressing up the auger through the hollow spindle.

No. 31,162.—F. F. FOWLER, of Crane Township, Ohio.—*Improvement in Machine for Gathering Hay.*—Patent dated January 22, 1861.—Two high runners, drawn by a jointed tongue, are provided with a revolving rake having its bearings in the rear portion of the runners, the bearings of the rake and tongue shafts being sufficiently loose and free to permit the runners to conform to the surface of the ground.

Claim.—The arrangement of runners F, braced, as described, with the revolving rake R, tongue T, shaft *r*, and braces *f*, when the several parts have the loose connexion described, whereby the machine may conform to the inequalities of the surface passed over, the construction and operation being as set forth.

No. 31,163.—E. W. FULLER, of Martinsville, La.—*Improvement in Cultivators.*—Patent dated January 22, 1861.—The object of this invention is to admit of the ploughs being adjusted both vertically and laterally, and at the same time admit of the use of either ordinary

wheels or of a roller and revolving harrow, and a seed distributing attachment, when required.

Claim.—The arrangement of the adjustable bars E E, ploughs G, rotary harrow B, and roller C, with the adjustable bars D D, transverse bars *a*, and frame A, all in the manner and for the purpose shown and described.

No. 31,164.—GILBERT G. GABRION and NATHANIEL B. WHITNEY, of Copenhagen, N. Y.—*Improved Stave Jointer.*—Patent dated January 22, 1861.—This invention consists in the combination of two jointer planes secured in each side of a suitable frame, with a sliding carriage, jack, or frame for holding (and, when the stave is for a vessel having a bilge, for bending) the stave, the said carriage being hung at its inner edge on an axis on which it is made to slide back and forth, thus forcing the stave over the plane and jointing it.

Claim.—The combination of the planes 1 and 2, secured in the frame 4, and made adjustable, in the manner described, with the carriage 7 sliding on the rod or shaft 6; all being constructed, arranged, and operated substantially as set forth.

No. 31,165.—JOHN GRIFFIN, of Louisville, Ky.—*Improvement in Cotton Pickers.*—Patent dated January 22, 1861.—This invention relates to an improvement in cotton pickers, for which patents were granted to the same inventor March 8 and November 22, 1859, and consists in a series of pipes or tubes and valves so arranged that when the flaring end of the large tube is placed over a boll of cotton the suction will be strong enough to carry the cotton up through a flexible valve into a receiver above. The device is applied by hand to the bolls of cotton, and suction is caused by a steam engine, to which the device is attached by a flexible tube.

Claim.—The arrangement for joint operation of the tubes A F I, valves C *d*, and pipes *l m*, essentially as and for the purpose set forth.

No. 31,166.—Suspended.

No. 31,167.—ROBERT HENEAGE, of Buffalo, N. Y.—*Improvement in Hemp Brakes.*—Patent dated January 22, 1861.—The secondary brake is so arranged as to direct the hemp downwards, after passing between the primary brakes, to the dressers below, which latter are placed upon springs, so that one will stand close to the forward roller and the other will be just below the forward comb, a reciprocating motion being given to them by a crank and shaft. A shifter and shifting gear are applied for the purpose of reversing the motion of the brakes and carrying back the hemp upon the table.

Claim.—The arrangement of the secondary brake F with the brakes C C′, in combination with the dressers G G′ and the gearing for reversing the motion of the machine, so that the parcel of hemp, as it passes through the brakes, will be bent at right angles, or nearly so, and directed downward to the dressers, the brakes operating and holding on to the parcel of hemp while the dressers are performing their work, substantially as set forth.

No. 31,168.—C. L. HERRING, of St. Louis, Mo.—*Improvement in Gas Regulators.*—Patent dated January 22, 1861.—Thin curved metal plates are applied to the flexible diaphragm of a gas regulator, so as to impart to the said diaphragm the sensibility incident to the application of plates thereto, without impairing the extent of its action or its flexibility, as in the case of making the plates flat, and clamping them close to the diaphragm.

Claim.—The application of the curved plates *a a* to the flexible diaphragm C, substantially as described, for the purpose specified.

No. 31,169.—EDWARD HOLMES and BRITAIN HOLMES, of Buffalo, N. Y.—*Improvement in Stave Machines.*—Patent dated January 22, 1861.—This machine is designed for dressing barrel staves of every description, differing in length, width, and bilge, and of any required bevel, and also staves of butter firkins, pails, &c. The invention does not admit of a brief description.

Claim.—First, the endless revolving iron bed A, constructed of jointed links, and having stops *a′*, in combination with cams, whose velocity must be increased or diminished according to the length of the stave to be dressed.

Second, the arrangement of the jointers in frame L, said frame being operated by levers which have a connexion to a cam, which cam has a horizontal adjustable movement upon its shaft, so that the revolution of the cam (through the arrangement of the levers) will communicate a reciprocating movement to the jointers, for the purposes set forth.

Third, the combination of the adjustable lever *n* with the frame L and hook or rest V, for the purpose of giving different width to staves, substantially as described.

Fourth, the arrangement of the frame R, including the cutter T, with the other parts of the machine, substantially as described, so that the said frame will have a periodical movement which will cause the stave to be chessed thinner in the middle portion thereof than it is at the ends.

Fifth, the arrangement of the gauges 1 2 3 4, &c., in combination with the lever *u* and rest *v*, for the purpose of locating the rest *v* in the proper place to bring the lever *h* to its proper angle to give the required width of stave.

No. 31,170.—ALFRED INGALLS, of Independence, Iowa.—*Improved Tire Heater.*—Patent dated January 22, 1861.—This invention consists in a cylindrical furnace with a movable top, having two or more concentric chambers made in it for receiving tires of different diameters, and furnished with dampers or valves whereby the draught of the furnace may be conducted through either one of the concentric chambers from a door in the outer box to an escape pipe diametrically opposite to this door.

Claim.—Combining with the horizontal circular furnace described the inside concentric partitions D D, movable covers C C C, the dampers *e e* and *g*, and supporting rods *p p p p*, all arranged substantially as and for the purposes described.

No. 31,171.—CHARLES IRWIN, of Buffalo, N. Y.—*Improvement in Sewing Machines.*—Patent dated January 22, 1861.—The object of this invention is to insure the needle from being broken by contact with the shuttle, and the forming of a perfect and well developed loop, and it consists in guiding and protecting the needle and its thread by the action of a spring attached to the plate through which the needle plays and of an adjustable arm on the front end of the shuttle-carrier.

Claim.—The adjustable arm *b* on the front end of the shuttle-carrier, in combination with the spring *f* for guiding and protecting the needle and its thread, as set forth.

No. 31,172.—WILLIAM JARRELL, of Trenton, Tenn.—*Improvement in Ploughs.*—Patent dated January 22, 1861.—This invention consists in a peculiar manner of securing the landside of a plough, the advantages being facility in casting, perfect security when in position, and ease of removal for repair or substitution.

Claim.—The combination of the landside B, sockets *d* and *f*, bolt *e*, and nut *g*, constructed, arranged, and operating in the manner and for the purposes set forth.

No. 31,173.—LEVI JEWELL, of Stratham, N. H.—*Improvement in Fire Escapes.*—Patent dated January 22, 1861.—This invention consists in the use of a metal roller furnished with pulleys for rolling up and unrolling the shade, and hung in strong metal brackets so constructed that a brake can be applied to the roller. The fire escape consists in the employment of two ropes of a suitable size, which are wound around the roller, and when not in use are covered with a metal casing, but when in use one rope will unwind from the roller, while the other winds upon it.

Claim.—Combining with a shade fixture the metal roller C, hinged caps E E, set screws *a a*, and cords G H, with the covers *g g*, substantially as and for the purposes described.

No. 31,174.—DANIEL G. KETTELL, of Worcester, Mass.—*Improved Harness for Preventing the Fore Legs of Horses from Interfering.*—Patent dated January 22, 1861.—An elongated or oval-shaped guard, made of wood or other suitable material, is suspended between the legs of the animal near the breast, and is of such width that while it does not interfere with the forward movement of either leg will prevent them from coming in contact at the ankle or knee joint.

Claim.—The new method, substantially as described, of preventing a horse while travelling from injuring one fore leg with the hoof of the other, as well as of breaking the horse of such bad habit, the same being accomplished by a guard arranged and suspended near or close to the breast and between the legs of a horse, and to operate as specified.

No. 31,175.—D. A. KING and T. NORRIS, of Lexington, Ky.—*Improved Dovetailing Machine.*—Patent dated January 22, 1861.—This invention relates to the means and method of forming the joints of cabinet or other wood work somewhat after the manner known as "dovetailing," and consists of a machine having two sets of rotating bits or tools, one set of which forms the dovetail tenons, and the other set forms the mortises to match.

Claim.—First, the boring bits *d d* and sliding bench I, in combination with the chisel bits *w w*, when constructed and arranged to operate together in forming the peculiar mortises on Z, Fig. 4, substantially in the manner specified.

Second, we claim the combination and arrangement of the tenoning bits *e e*, the sliding bench K, and the adjustable stop *y*, constructed and operating substantially as and for the purpose set forth.

No. 31,176.—BENJAMIN F. KNOWLES, of Providence, R. I.—*Improvement in Harness Motion for Looms.*—Patent dated January 22, 1861.—The cones and pulleys are so arranged that while every leaf of harness has a movement proportioned to its distance from the filling point, so that every shed is opened to the same width at the point where the shuttle passes through it, the harness stands are open at the top, permitting the weaver standing in front to attend to the back part of the loom without going around. The construction of the cam groove by which the vibrating lever is attached enables the loom to be driven at a higher velocity, that is to say, to make a greater number of picks per minute than when the shed crosses at the same velocity as the earlier or later portions of its opening and closing movements, without increased liability of doing injury to the warp at the time of crossing the shed.

Claim.—First, the employment for supporting and operating the harness, of cones

of pulleys arranged with their axes parallel with the vibrations of the lay and the larger pulleys of the cones toward the rear of the loom, substantially as specified.

Second, in combination with a horizontally vibrating lever I, connecting with a belt or belts *f f* for driving the harness, I claim a grooved cam J, so constructed as to produce a slower movement of the harness at the time of the crossing of the shed, as compared with its movement in the earlier and later stages of the opening and closing of the shed, substantially as described.

No. 31,177.—J. H. LA BAU, of New York, N. Y.—*Improvement in Machines for Finishing Hats.*—Patent dated January 22, 1861.—The object of this invention is to finish silk or fur hats by means of mechanism, which performs the process of sponging, brushing, and ironing automatically, motion being imparted through the rotation of a single shaft.

Claim.—First, the levers M M′ M″, with the heater *m*, brush *n*, and sponge *o*, respectively attached, the arms J J′ J″, screw shaft B, provided with the hat block C, and the bar H, provided with the nut I, arranged for joint operation, substantially as and for the purpose set forth.

Second, the fusee-shaped projection K′, on the disk K, rod P connected with the shaft O, on the slide Q, also connected to said shaft, and provided with the upright projection *a′*, the above parts being arranged substantially as shown, to cause the heater, brush, and sponge to pass over and act upon the brim of the hat, as set forth.

Third, the arrangement, when used in connexion with parts above named, of the pulley E and disk G, the former being fitted loosely on the socket D, and the latter provided with the pendants *b b*, which pass through the pulley substantially as described, whereby the shaft B may be rotated and allowed to rise as it rotates, for the purpose specified.

No. 31,178.—ANDREW B. LEFLER, of Canton, Ind.—*Improvement in Cultivators.*—Patent dated January 22, 1861.—The reversible shares are bolted at their centres to the respective standards, the lower parts of which are curved to correspond with the form of the said shares and strengthen the same to their extremities. The upper end of the share is held between the beam and a washer, confined by a nut and bolt, by which the standard is attached to the beam.

Claim.—The described combination of the bent beam B, reversible shares E E′, and standards D D′, with the brace C and washer F, the said parts being constructed, arranged, and connected in the manner and for the purposes described.

No. 31,179.—C. B. LOVELESS, of Tom's River, N. J.—*Improvement in Vapor Lamps.*—Patent dated January 22, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination with the wick tube T of the crescent-shaped gas chamber C, having the burner B and the elongated heat conducting rings R, performing the double function of generating gas and aiding in the lateral spreading of the flame; the whole being constructed and operating substantially in the manner and for the purpose set forth.

No. 31,180.—THOMAS J. MAYALL, of Roxbury, Mass.—*Improvement in Polishing Tools.*—Patent dated January 22, 1861.—The claim and the engraving will explain the nature of this invention.

Claim.—As a new article of manufacture, the tool described for polishing shafts, rods, or other objects of cylindrical or round formation, and capable of revolution, the same consisting of two pieces provided with corresponding cavities, and hinged together to admit of their being separated and brought together for operation, as described, the polishing surfaces being composed of India-rubber or gutta-percha, or of the various compositions of these, with which emery, sand, glass, or other suitable gritty substance is incorporated, substantially as set forth.

No. 31,181.—JOHN B. MCCORMICK and WILLIAM R. BAKER, of St. Louis, Mo.—*Improvement in Hemp Brakes.*—Patent dated January 22, 1861.—The revolving drum is formed of two heads keyed on the shaft, one near each end, the heads being provided with radial slots, between which longitudinal bars are secured. Between the bars *d* of the drum are placed bars *f*, armed with teeth or spikes, and working loosely in the slots of the heads. The bars *f* have also a lateral or longitudinal motion given them by means of zig-zag cams on each side of the framing, the object being to scutch and thoroughly cleanse the hemp from all woody matter. Below the drum are placed endless belts, provided with slats, the ends of which gear into corresponding recesses in the peripheries of the drumheads.

Claim.—The combination of the endless belt *k*, with the radially sliding armed bars *f*, as and for the purpose shown and described.

Also, giving a lateral movement to the said radially sliding armed bars *f*, in the manner and for the purpose shown and described.

No. 31,182.—HIRAM MCDONALD, of Union Springs N. Y.—*Improvement in Wood-bending Machines.*—Patent dated January 22, 1861.—The mould around which the stuff is bent

is attached to one end of a block secured to the bed-piece. The inner parts of the beds, F F, are fitted to the mould, and their outer parts rest on curved guides or supports. In the outer part of each bed are placed two eccentrics of different forms on a common axis, which bear against sliding plates fitted in boxes, and between the plates and slides are interposed keys, which cause the slides to bear up against the end of the strip to be bent. By means of a windlass and levers the strips are bent around the mould, rollers on the lever keeping the strip snugly to the mould. The eccentrics, which serve as stops for "upsetting" the wood, are very gradually relaxed as the strips are bent.

Claim.—The eccentrics *l m*, sliding plates *o p*, slides *t u*, and the keys *r s*, placed at the outer parts of the beds F F, and arranged substantially as and for the purpose set forth.

No. 31,183.—DAYTON S. MORGAN, Brockport, N. Y.—*Improvement in Harvesters.*—Patent dated January 22, 1861.—This improvement is more especially adapted to the machine patented by William H. Seymour, in 1851, and known as the "New York Reaper." The invention consists in the employment of a peculiarly shaped reel-support, fastened to the inner or grain side of the machine, and in front of its axis of oscillation, and curved outwardly beyond the outer diverging line of the divider, in order to leave an open space above the divider, and then curved inwardly again, above the level of the reel-bearer, sufficiently to bring the end to which the reel-bearer is attached above, but somewhat outside of the rising line of the divider, the object being to prevent the grain from catching upon the posts or clogging the reel.

Claim.—The combination of the peculiarly curved reel-support A with the horizontal arm E and supplementary divider D, when the whole are arranged relatively to each other and to the frame of the machine substantially as described, for the purpose set forth.

No. 31,184.—DAVID A. MORRIS, of Pittsburg, Penn.—*Improvement in Manufacture of Sheet Iron.*—Patent dated January 22, 1861.—The object of this invention is to form an enamel on the surface of sheet iron, to lessen its tendency to corrosion, and give it a high degree of finish.

Claim.—The application of carbonaceous material prior to heating the iron, (without removing the iron scale or black oxyd from the surface of the sheets,) and for the purpose specified.

No. 31,185.—GEORGE C. MUNSON, of New York, N. Y.—*Improvement in Tucking Gauges.*—Patent dated January 22, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—An instrument or implement forming a tucking gauge for attachment to a sewing machine, essentially as described, and having for its elements the combination of clamping plates, or a clamping plate and bar or roller, or equivalent devices, constructed to hold the cloth at any desired width of tuck with a gentle pressure from the edge throughout the width of tuck, a device or means for regulating the pressure of the clamping plates, and varying their width apart, an outside guide to the folded edge of the cloth, adjustable at pleasure, and a device or means for urging the cloth up against said guide, all for operation together, substantially as and for the purpose or purposes set forth.

No. 31,186.—J. Y. D. MURPHY, of Half Moon, Penn.—*Improvement in Corn Planters.*—Patent dated January 22, 1861.—Below the seed-conducting tube is arranged a seed chamber, to which a reciprocating movement is given. Under this seed chamber is a sliding bottom, to facilitate the passage of the corn from the conductor. In front of the sliding chamber, and secured at the top of the frame, is a vertical cutter which, in connexion with a horizontal cutter and the side plates, serve to open the furrow. Motion is given to the various parts by means of a lever operated by cams on the driving wheel, so that the furrow is made, and the seed dropped therein and covered, at one operation.

Claim.—First, the combination of the reciprocating seed chamber T, opener V, and sliding bottom *b*, arranged and operating substantially as and for the purposes set forth.

Second, the arrangement of cutter *l*, comb *k*, horizontal cutter V, side plates M, depositing chamber T, conducting tube *p*, shaft E, spring *a*, bar H, and slide J, substantially as set forth.

No. 31,187.—ARTHUR NEILL, of Boston, Mass.—*Improvement in Moulds for Shaping India-rubber Pencil-heads.*—Patent dated January 22, 1861.—This invention consists in the combination and arrangement of three metallic plates, (one of them being a core plate,) by which is produced an India-rubber head, to be fixed on one end of a lead pencil.

Claim.—A mould composed of a core plate C, with its cores *a a a*, matrice plate B, and a cap plate A, combined and arranged together substantially as described and for the purpose set forth.

No. 31,188.—FREDERICK H. PURINGTON, of Willimantic, Conn.—*Improvement in Drawer Alarms.*—Patent dated January 22, 1861.—The object of this invention is to obtain an alarm for tills and drawers which will give warning when an illegitimate attempt is made to open them, and at the same time will cause the tills and drawers to be locked so as to prevent their being opened except by a key.

Claim.—The catches G, arranged relatively with the springs D, as shown and used in connexion with the slide F, to operate as and for the purpose set forth.

No. 31,189.—LOUIS C. RODIER, of Springfield, Mass.—*Improvement in Tool-handles.*—Patent dated January 22, 1861.—The ferrule on the end of the handle is provided with a hollow shank made square. On the outside of the shank is a screw thread, over which screws a cap having a hole for the insertion of the awl. The flange of the awl is nipped between the cap and head of the ferrule and firmly secured.

Claim.—A handle for awls or other tools having the ferrule B and screw cap C combined and operating in the manner and for the purpose substantially as described.

No. 31,190.—THOMAS W. ROYS, of Southampton, N. Y.—*Improvement in Harpoon Guns.*—Patent dated January 22, 1861.—This gun is designed to be so shaped and proportioned as to be balanced on the shoulder. The barrel is provided with two transverse flanges, through the upper part of which are openings provided with hinged flaps or valves for protecting the gunner from the back fire of the rocket, and enabling him to take sight. In the lower part of the barrels is a channel in which the point of a hook, attached to the rear end of the rocket, moves, so that when it is discharged from the barrel the hook catches under a bar attached to a link to which the rope is secured. The rear of the gun is provided with a plate, through which is an opening large enough to admit the harpoon, which opening is covered by a plate hinged to the upper part of a frame, for the purpose of preventing the fire from the rocket passing back.

Claim.—First, encircling the barrel of the gun with one or more transverse flanges, B, provided with valves C, for the purpose of protecting the face of the gunner and at the same time enable him to take his sight.

Second, placing before the rear end of the barrel a stop to receive the back fire of the rocket, substantially as described for the purpose specified.

Third, the long bar *m* across the top of the link *n* to prevent the harpoon from being forced clear through the whale.

Fourth, the vent hole *v*, in the front end of the barrel, for the purpose of closing the valve C in the manner described.

Fifth, the channel K, on the gun barrel, through which the hook J travels so as to catch the link *n* in the manner described.

No. 31,191.—SAMUEL SCHUYLER, of Brooklyn, N. Y.—*Improvement in Grain Dryers.*—Patent dated January 22, 1861.—In a stack or tower are arranged a series of sieved or grated platforms, hung at one end on a pivot in the centre of their width, the other end being suspended by chains connected to a shaft, by which their line of inclination can be changed. The sieves are vibrated sidewise. Elevators are placed on each side to raise the grain to be dried, and that which has been dried, to bins for storage.

Claim.—The combination of the series of platforms B, with the elevators M and N, as set forth and for the purpose described.

No. 31,192.—WILLIAM SELLERS, of Philadelphia, Pa.—*Improvement in Ovens.*—Patent dated January 22, 1861.—The car at the top of the back pile or series is transferred to the top of the front series by means of a hook on the end of a rack, which is operated by a wheel K' on shaft *k*, the other end of which carries a pinion gearing into rack G, to which latter motion is communicated by fluid under pressure in cylinder I, so that the operation of transferring the top car of the back series to the top of the front one is performed simultaneously with that of entering a car into the oven. An alarm clock is so arranged as to set off, at longer or shorter intervals, as may be desired, the setting off, liberating a hair trigger to which it is connected. By means of a blower and pipes extending through the top of the oven, a current of air may be forced into either of the divisions of the oven, thus forcing the hot air down towards the fire below and into the flues of the fire chamber so as to reduce the temperature to the degree required.

Claim.—First, the arrangement of the cars or pans in the oven in two series, one ascending and the other descending, substantially as described, in combination with the means described, or the equivalent thereof, for transferring from the ascending to the descending series within the oven, and with means for inserting and discharging at or near the bottom of the oven and on one side thereof, substantially as described and for the purpose specified.

Second, also, machinery or an instrument for measuring time, in combination with the machinery which operates the oven, in the manner substantially as specified and for the purpose set forth.

Third, also, in combination with an oven having the fire chamber at the lower part thereof, and in which the fire is not separated therefrom by any roof or partition, substantially as described, the employment of the blower, or equivalent means, for forcing in a current of air at or near the top, substantially as described, to reduce the temperature when required.

No. 31,193.—OLIVER SWEENY, of Norwich, Conn.—*Improved Knife Cleaner.*—Patent dated January 22, 1861.—This invention consists in the arrangement of a clamp which serves

to retain the handles of two or more knives, in combination with a supporting perforated platform, in such a manner that, when the clamp with the knives is placed on the platform, the blades of the knives rest flat on said platform in the proper position for being cleaned.

Claim.—A knife cleaner having in combination a clamp A, and a perforated reversible board B, constructed and operating in the manner and for the purpose described.

No. 31,194.—JEREMIAH SWEITZER, of Mishawaka, Ind.—*Improvement in Ploughs.*—Patent dated January 22, 1861.—This invention consists in the arrangement of the several parts of the plough.

Claim.—The arrangement of the beam B, handles *a a'*, landside *b*, standard *o*, and brace *c c*, with flanges *s*, the whole constructed as and for the purposes set forth.

No. 31,195.—AUGUSTUS C. TEUBNER, of New York, N. Y.—*Composition for Rendering Textile and other Fabrics Air and Water Tight.*—Patent dated January 22, 1861.—The ingredients used in this composition are a solution of oil of turpentine, sugar of lead, and balsalm of fir, which is placed in one vessel; in another vessel is placed a solution of oil of turpentine and gum elastic; and in a third a mixture of gum elemi, resin and turpentine, all which are finally thoroughly incorporated and applied to silk, linen, cotton, and other fabrics.

Claim.—The composition made of the ingredients and prepared in the manner and used for the purposes recited.

No. 31,196.—H. L. THISTLE, of New York, N. Y.—*Improved Spring Bed Bottom.*—Patent dated January 22, 1861.—The helical springs are secured between the upper and lower slats by means of knobs projecting from their lower and upper sides respectively, the upper slats being bent up and their ends inserted in mortices in the head and foot rails.

Claim.—The arrangement of the helical springs or cross bars, substantially as described, in combination with the longitudinal slats above them, substantially as described.

No. 31,197.—G. B. VROOM, of Jersey City, N. J., and SOLOMON KINZIE, of Brooklyn, N. Y.—*Improvement in Machine for Hoisting Barrels and Placing them in Tiers or Rows.*—Patent dated January 22, 1861.—This invention consists in the employment of a derrick with a movable jointed leg, in combination with a prop or frame, whereby the barrels, &c., will be raised perpendicularly to the desired height, and then rolled over on the first tier with a comparatively short derrick.

Claim.—In combination with a derrick resting on four legs or supports, two of which are stationary and the other two supported on wheels, as described, I claim the frame B and B', when the whole is constructed and applied substantially as described for the purpose set forth.

No. 31,198.—JOSEPH WARNER, of New Britain, Conn.—*Improved Kettle Handle.*—Patent dated January 22, 1861.—The object of this invention is to furnish a handle which may be readily attached or detached from kettles which have no permanently fixed handles.

Claim.—A handle for lifting vessels that is composed of a curved portion A, having a tongue and shoulder *a b* at its upper end, which form a slot to grasp the edge of the vessel, the whole made as shown and described.

No. 31,199.—SARAH JANE WHEELER, of New Britain, Conn.—*Improvement in Currycombs.*—Patent dated January 22, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of single sheet metal bars of currycombs, having concave back edges of a sufficient degree of curvature to give the necessary firmness and strength without the assistance of side projections or supports, but having rivet projections thereon, with a back of corresponding curvature so as to fit the concave back edges of said bars, and either made of a single piece, so as to be "close," or of separate pieces, so as to be "open" and unobstructed between all the bars, substantially in the manner and for the purposes specified.

No. 31,200.—H. S. WHITE, of Newport, R. I.—*Improvement in Newspaper Files.*—Patent dated January 22, 1861.—The button is adjusted in a loop attached to a table or other fixture, and the staple passes through an eye attached to the table, the eye having a small padlock in it to prevent the papers from being abstracted.

Claim.—The employment or use of the button C and staple D attached to one of the strips, in connexion with the loop E and eye H attached to the table or fixture G, as and for the purpose specified.

No. 31,201.—WILLIAM C. WILLEY, of Princeton, Ill.—*Improvement in Corn Planters.*—Patent dated January 22, 1861.—The object of this invention is to obtain a machine for planting corn either in hills or drills, and at a greater or less depth, as may be required. The seed-distributing apparatus may be operated automatically or manually, as may be desired, and without the liability of choking or clogging.

Claim.—The arrangement of the hoppers F, oscillating perforated shell G, holes *f*, plates *g*, vibrating bar J, and levers L K, with the seed tubes H, plates I, shares D, jointed frames

A C, bars *b b*, uprights *c c*, projections *m*, and rollers B, in the manner and for the purpose shown and described.

No. 31,202.—W. H. AULD, of Fairfield, Iowa, assignor to Himself and R. C. BROWN, of Fairfield, Iowa.—*Improvement in Circular Sawing Machines.*—Patent dated January 22, 1861.—One end of the frame is pivoted to one of the ties, and the other end is connected with the opposite tie by arms and a screw rod, by which means a ready lateral adjustment of the saw is effected, for the purpose of preventing its binding in the kerf or marring the work.

Claim.—The arrangement of the pivot *a*, upon which the adjustable frame C turns, in front of the cutting edge of the saw E, as shown and described, whereby the angle of the face of the saw blade may be varied at pleasure without changing the position of the cutting edge, all as set forth.

No. 31,203.—FRANCIS D. BALLOU, of Abington, Mass., assignor to Himself and J. L. NASH, of Abington, Mass.—*Improvement in Sewing Machine.*—Patent dated January 22, 1861.—The object of this improvement in making stitched boots or shoes by sewing mechanism is to hold the work down on the table or bed plate of the machine as near the awl and needle as possible, and to keep the channel formed on the outside of the outer sole open, so that the seam will follow closely in this channel, that the raised lip of the channel may be pressed down after the shoe is finished and present a neat appearance, as if the stitching had been done by hand. It further provides for stitching the shanks of the boot or shoe, and also provides for keeping the upper back from the needles, and for guiding the channel to receive the same through the machine, and for sewing light or heavy, large or small work.

Claim.—First, the construction of the presser D, with separately adjustable foot plates C C′ as shown and described.

Second, the curved bearing plate B, with its lip *c*, in combination with the presser bar D and foot pieces C C′, arranged as, and serving for the purposes, set forth.

Third, the arrangement of the separately adjustable foot plates C C′, with the curved plate B, openers G G′, and disk E, in the manner shown and described.

No. 31,204.—WALKER B. BARTRAM, of Norwalk, Conn., assignor to A. S. DODD, of New York city.—*Improvement in Fare Boxes.*—Patent dated January 22, 1861.—Within the box are placed metal tubes of sufficient size internally to admit of the passage of the various pieces of coin in use. These tubes have an opening in the bottom wide enough to allow a free movement of open valves backward and forward, the valves being of the thickness of the several coins in the tubes. The valves are each provided with a finger having a spring on the inside and pressing against the lower end of the tubes. A revolving wheel, having any proper number of figures on its circumference, and a clock-work arrangement, are connected to a lever M, which also connects with a bell and a glass plate turning on its longitudinal axis, situated above the money drawer, and extending from the top of the latter to a corresponding immovable glass plate placed at an angle with the front of the box. By actuating the lever M, a passenger, upon dropping in a large coin, can take out the proper change and at the same time register a number.

Claim.—The giving of exact change, as desired, by means of tubes A, adapted to different coins, in combination with the open valves D, levers B, and springs E, constructed and operated substantially in the manner and for the purpose set forth.

And, in combination with the above, I also claim the money box lever M, movable plate U X, bell J, and register R, the whole being constructed and operated substantially in the manner and for the purpose set forth.

No. 31,205.—NEHEMIAH S. BEAN, of Manchester, N. H., assignor to the AMOSKEAG MANUFACTURING COMPANY, of same place.—*Improvement in Picker Staff Motion.*—Patent dated January 22, 1861.—The picker staff is secured to a rocker hinged to the open link *c*, the latter is also hinged to the piece *e*, which is arranged to be bolted to the lay of a loom. The link projects beyond the pivot on which it vibrates, so that the spring can act on the short arm, considering the link as a lever. The ears *g*, which project from the link downward on each side of the piece *e*, guide the movements of the link, and consequently those of the picker staff, by which means the spring is made to operate to retain the picker staff after it has moved forward to throw the shuttle.

Claim.—The arrangement and combination of the rocker of the picker staff within the link and upon the piece *e*, when the rockers and link are hinged and are operated upon by a spring, and the link is provided with guiding ears *g*.

No. 31,206.—ALBERT BELLINGRATH, of Atlanta, Ga., assignor to Himself and LEONARD BELLINGRATH, jr., of Atlanta, Ga.—*Improvement in Pumps.*—Patent dated January 22, 1861.—To the piston rod, above the opening in the cylinder, is attached a piece provided with wedges, which work through guides provided with friction rollers. These wedges serve to rotate the piston part way round, as it is worked up and down, the upper end of the piston being attached to a swivel, to allow it to turn. The piston is provided with wings, one extending above and the other below, and covering, respectively, a suction and discharge hole.

there being two of each of these holes, so that as the piston rod moves up and down the action of the wedges cause an alternate action of the wings upon the suction and discharge holes, which are connected by pipes, by which the water is raised without the use of valves.

Claim.—The construction and arrangement of the piston B, cylinder A, wedge D, in the manner and for the purposes set forth.

No. 31,207.—ALBERT H. BROWN, of Albany, N. Y., assignor to JAMES BURTON, of the same place.—*Improvement in Machines for Cutting Wooden Mouldings.*—Patent dated January 22, 1861.—A series of slides, provided with tool stocks to hold the cutters, are placed on the upper surface of a carriage, and are fitted in dovetailed recesses. To the under side of each slide is attached a spiral spring, and to their outer ends is connected a lever. The cutters are made to act in turn upon the work as the carriage is moved forward. A bar and lever are arranged to throw the tools from their work in order to "gig" back the frame.

Claim.—The arrangement of the sliding tool holders D E F, cutters N, springs G, frame O, and pattern P, with the carriage B, levers H, bar K, and bars L, as shown and described for the purposes set forth.

No. 31,208.—JOHN T. BRUEN, of Brooklyn, N. Y.—*Improvement in Sewing Machines.*—Patent dated January 22, 1861.—The lower needle apparatus is pivoted to the under side of the base plate. A socket for a ball joint is made in the needle holder, into which fits the upper end of the arm *u*, having an eye on its inner end that fits upon a rock-shaft, and on this arm is a coiled spring that bears up against the needle holder and keeps it against the base plate. A small hook is made to pass through a hole in the shank of the needle, so that it can be turned down out of the way when two threads are used and a double loop stitch made.

Claim.—Needle holder *r*, jointed by a double joint to the permanent frame moved and held up to its place by the socket joint arm *u*, and spring constructed and arranged as described, and the hook *t*, combined with the lower needle in the manner and for the purposes set forth.

No. 31,209.—A. F. JOHNSON, of Boston, and I. E. BARTLETT, of Stoneham, Mass., assignors, by mesne assignment, to I. M. SINGER and EDWARD CLARK, of New York city.—*Improvement in Sewing Machines.*—Patent dated January 22, 1861.—This invention consists in the combination of two eye-pointed needles, each carrying its own thread, with a shuttle carrying its thread through the loops of the two needle threads, when such shuttle is caused to move transversely to the line of direction of the feed motion of the machine, at any desired angle therewith.

Claim.—The combination in the same machine of two needles with a shuttle in such a manner that the needles form two parallel rows of stitching, and that the shuttle reciprocates across the line of direction of the feed motion and connects the two rows of stitching by the shuttle thread, substantially as described, so as to form a compound seam of three threads, presenting two separate rows of stitching on one surface of the material sewed.

No. 31,210.—JOSEE JOHNSON, of New York, N. Y., assignor to Himself and JOHN WARD, jr., of Brooklyn, N. Y.—*Improvement in Stilts.*—Patent dated January 22, 1861.—This invention consists in constructing a stilt of two pieces of wood, fixed in a metallic socket piece, which forms the step, so arranged that the portion supporting the weight, or the stilt proper, is directly beneath the foot when in use, while the handle rises at one side.

Claim.—A stilt constructed of two pieces A and B, joined together by a metal socket C, in such a manner that the part A receives the strain in the direction of its length, and the socket C also serves for the foot rest or step, substantially as and for the purposes described.

No. 31,211.—L. W. LANGDON, of Northampton, Mass., assignor to Himself, HIRAM WELLS, and D. G. LITTLEFIELD, of same place.—*Improvement in Sewing Machines.*—Patent dated January 22, 1861.—To the interior of the shuttle is pivoted a friction plate, which is drawn down upon the barrel of the bobbin, or upon the thread wound thereon, by a spring secured to one end of the shuttle by a screw, and at the other end it is hinged to a short arm, attached rigidly to the friction plate.

Claim.—Producing tension upon the shuttle thread by means of the pressure plate *i* and spring *g*, constructed and combined substantially as described.

No. 31,212.—JOHN MCMURTRY, of Fayette county, Ky., assignor to I. A. BOSTWICK, of Lexington, Ky.—*Improvement in Fireplaces.*—Patent dated January 22, 1861.—In the rear of the fireplace is an air chamber, provided with proper dampers and registers for the admission of cold and the exit of heated air. On the back of the fireplace are placed thin ribs, at intervals, for the purpose of securing a more perfect combustion of the fuel.

Claim.—The combination of the ribbed or corrugated back with the air chamber and registers, as shown in the accompanying drawings, substantially as described and for the purposes set forth.

No. 31,213.—JOHN P. REYNOLDS, of Mirabile, Mo., assignor to H. H. ROBERTSON and C. G. CARR, of Kingston, Mo.—*Improved Harness for Shoeing Horses.*—Patent dated January 22, 1861.—The object of this invention is to confine the horse in such a manner as to keep him still while being shod.

Claim.—The combination of the straps *c c c'* and *v*, cords *l u*, and movable post *s*, the said parts being applied, arranged, and secured substantially as and for the purposes set forth.

No. 31,214.—QUARTUS RICE, of Nevada, Cal., assignor to LORENZO RICE, of West Winsted, Conn.—*Improvement in Sewing Machines.*—Patent dated January 22, 1861.—This machine is adapted to form continuous tubular work of any desired diameter and of indefinite length, for hydraulic hose or other uses. The parts of the gauge are adjusted in distance by means of a shaft having a right and left screw at each end. On either side of the gauge are two rollers mounted upon shafts which are journaled in bearings secured to the frame in such a manner as to admit of adjustment of the upper ends of the shafts in a line parallel with the axis of the gauge, so as to set the rollers vertically or give them an inclination, by which means the degree of compression of the cloth is regulated.

Claim.—First, the combination with a sewing machine of any suitable construction of the gauge K K', constructed and operating substantially as set forth, to produce continuous tubular work.

Second, the adjustable guide rollers N N, operating in combination with the gauge K K', substantially as and for the purpose set forth.

Third, the general combination of the feed movement G H I M, sewing mechanism A B C D, gauge K K', and rollers N P, arranged and operating substantially as and for the purposes set forth.

No. 31,215.—GRANT J. WHEELER, G. W. DUNNELL, and WILLIAM SHARP, of Bloomfield, N. J., assignors to JAMES C. BEACH, of same place.—*Improvement in Paper-making Machinery.*—Patent dated January 22, 1861.—By means of the perforated roll, combined with the felts, the water is caused to be pressed from the web at a point between the rollers, and runs off on the felts instead of being pressed back upon the web, the water passing into the perforated roll.

Claim.—The use, in press-rolls, of the perforated roll D, in combination with the felts K and S, which carry the pulp between them, substantially in the manner and for the purposes described.

No. 31,216.—JOSEPH W. SPRAGUE, of Rochester, N. Y., assignor to Himself, GEORGE B. REDFIELD, trustee, (for the benefit of C. GATES,) JAMES JONES, and AARON W. TYRELL, of same place.—*Improvement in Fire Escapes.*—Patent dated January 22, 1861.—The braces are designed to be arranged within the apparatus in such a manner as not to interfere in raising or lowering the same. A continuous passage-way is provided from top to bottom by means of a series of shut ladders and platforms, the latter being so arranged as to maintain a horizontal position. To the upper platform is attached a revolving platform, having a light platform, which is designed to be slid into a window of the building. The wagon frame is caused to rotate by means of wedges moving upon the axle, so as to keep the machine level. The cams are so combined with the brakes as to prevent the machine from descending too rapidly in case of careless handling.

Claim.—First, the braces C C, combined with the levers A A, and struts B B, when the same are constructed and operated substantially as described for the purpose aforesaid.

Second, the combination of the platforms M M, the ladders L L, and the guide-bars N N, when the same are constructed and operated substantially as described.

Third, the combination of the upper platform O, the revolving platform P, and the sliding platform R, substantially as described.

Fourth, the attachment of the wagon frame to the axles in such a manner as to allow the wagon frame to be levelled by means of the sliding wedges Y Y, substantially as described.

Fifth, the arrangement of the cams I I, in combination with the ratchets H H, and with the brakes, in such a manner that the act of raising the ratchets shall tighten the brakes, substantially as described.

No. 31,217.—GEORGE W. ARMSTRONG, of Clinton, N. C.—*Improvement in Water-Wheels.*—Patent dated January 29, 1861.—The portion of the shaft enclosed by the water-wheel and cylindrical casing of the penstock is formed by placing two cones, with their apexes nearly meeting one another, on the shaft, the upper cone being of much greater area than the lower one, so that the upper pressure of the water shall equal the downward pressure. A rubber packing-ring is attached to the inside of the cylindrical casing, and extending below the lower edge of the water-wheel, which is caused to pack tightly, the rubber being distended by the pressure of the water, and admits of the raising and lowering of the wheel to a limited extent.

Claim.—First, the employment of a vertical shaft E, which has on its lower portion an enlargement I J, of the form described, in combination with a centrifugal discharging reaction water-wheel G and a cylindrical casing B, in the manner and for the purposes set forth.

Second, the employment of a suspended elastic packing-ring K, in combination with a water-wheel G G′, which is supported on a vertical shaft E I J; enlarged as above stated, and is raised and lowered in the manner and for the purposes set forth.

No. 31,218.—M. L. BALLARD, of Canton, Ohio.—*Improvement in making Finger-Guards for Harvesters.*—Patent dated January 29, 1861.—This machine consists of two jaws, one of which is grooved out, and the other has two surfaces, separated by a projection at its centre. The jaws are surrounded by a clasp or ring piece, which is made to force the jaws together by a wedge being driven between it and the outside of one of the jaws. The sliding-key is placed at the lower part of the jaws, upon which rests the bar from which the finger is formed.

Claim.—First, the combination of a jaw A with its plane surfaces F F′, and jaw B with its groove G G′, with clasp or ring C, and wedge D, or their equivalents, for the purposes stated.

Second, in combination with the jaws A and B, the sliding-key E, as and for the purposes set forth.

No. 31,219.—M. L. BALLARD, of Canton, Ohio.—*Improvement in making Finger-Guards for Harvesters.*—Patent dated January 29, 1861.—A section of iron of suitable size for the guard-finger, being first heated near its middle, is dropped into the groove of the jaw B, and rests upon the sliding-key. The wedge within a clasp around the jaws, being driven down, closes the jaws, and forms a groove on the guard-finger. The key being driven back, a hammer is applied to the section of iron by which the shoulder is formed.

Claim.—Forming the shoulder of wrought-iron guards, or fingers, by "staving up" the sections of iron, substantially as described.

No. 31,220.—M. L. BALLARD, of Canton, Ohio.—*Improvement in making Finger-Guards for Harvesters.*—Patent dated January 29, 1861.—The finger being formed as described in a previous invention, a thin piece of steel is welded upon the surface *h′*, after which the end is drawn out and turned over to form the lip of the guard, while the back part of the guard near the point where the end is bent is drawn out to form the point of the guard.

Claim.—A guard or finger constructed in the manner above described, whereby the shank and shoulder are formed with accuracy and precision from a section of iron of just sufficient size in its cross section to form the shank, while the surfaces of the guard on each side of the cutter are faced with a thin layer of steel.

No. 31,221.—WILLIAM B. BARNARD, of Waterbury, Conn.—*Improved Sash-Fastener.*—Patent dated January 29, 1861.—This invention consists of a cam-bolt, that upon being pressed back takes an eye on the upper sash, and upon turning said bolt the upper sash is pressed up by said cam on the bolt, at the same time that the bolt through a pin and spring binds the upper and lower sashes firmly together, so as to prevent their shaking by the wind, or admitting air through the joint between the upper and lower meeting rails of the sash.

Claim.—The spring-bolt *c*, provided with the cam 3 and pin 2, taking the eye 4 in the flange *d*, in the manner and for the purposes specified.

No. 31,222.—G. W. R. BAYLEY and T. W. NELSON, of Brashear, La.—*Improvement in Drawbridges.*—Patent dated January 29, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The construction of drawbridges with one end pivoted upon the abutment, and the centre of the bridge supported and moving upon a circular track, all substantially as and for the purposes herein shown and described.

No. 31,223.—JAMES M. BOIS, of Aurora, New York.—*Improved Washing-Machine.*—Patent dated January 29, 1861.—The under surface of the rubber is convex and provided with ribs, the rubber working on a shaft arranged in vertical grooves on the sides of the box. One end of the presser bar is held in a notch on one side and a toothed spring on the other, which admits of adjustment to the clothes in the box. An oscillating motion is given to the rubber by means of the handle.

Claim.—The pressure bar K having a slot K′ at the centre, through which slot the handle I passes to allow the bar to press or bear upon the rounded shoulders *j*, in combination and arrangement with the toothed spring L and notched crosshead D, rubber E, handle I, shaft G, and side pieces *h*, substantially as set forth.

No. 31,224.—LUDWIG BRÜMLEU, of Hoboken, N. J.—*Improvement in manufacture of Oxychloride of Lead.*—Patent dated January 29, 1861.—The claim will explain the nature of this invention.

Claim.—The process as set forth in the foregoing description of manufacturing oxychloride of lead from subacetate of lead by the introduction of muriatic acid, leaving in solution neutral acetate of lead free to be used over and over for the same purpose.

No. 31,225.—JOEL BRYANT, of Brooklyn, N. Y.—*Improvement in Pen-Holders.*—Patent dated January 29, 1861.—The eraser is secured to the end of the pen-handle that enters the socket of the pen-holder.

Claim.—The construction and use of ink erasers and pen-holders, when the same are made and used in combination with each other, substantially as herein described.

No. 31,226.—TISDALE CARPENTER, of Providence, R. I.—*Improvement in Steam-Engines.* Patent dated January 29, 1861.—The invention consists in operating the induction or supply valves with a positive motion in each direction, and a variable cut-off by means of a compound cam and variable rocking-levers, either with or without a regulator, and without detaching or releasing the said valves from the devices that move them; also in arranging and operating the induction or exhaust valves in the cylinder heads parallel with the motion of the piston by a separate or independent valve movement.

Claim.—In combination with the governor of a steam or other engine, the compound cam C C′, and the rocking-levers D D, when constructed and arranged substantially as described, whereby a variable opening and closing of the induction valves is automatically produced by a positive motion as specified.

Second, also, the above combination of the cam C C′ and the rocking-levers D D with the induction valves of engines, when arranged and operated substantially as described, as an adjustable cut-off without a regulator to make it automatic.

Third, operating the eduction or exhaust valves in openings in the cylinder heads, said openings being on a line parallel with the motion of the piston, constructed as described, and said valves being worked by a movement separate from the induction valves of the engine.

No. 31,227.—FENNER DARLING, of North Blackstone, Mass.—*Improvement in Pockets of Wearing Apparel.*—Patent dated January 29, 1861.—This invention consists in making the mouth or opening of the pocket so small that a pickpocket cannot insert his hand, and yet may be distended when the wearer wishes to take anything from it by means of an elastic gore inserted on one side of the pocket.

Claim.—Inserting the gore C of elastic cloth on one side of the pocket, substantially in the manner and for the purposes specified.

No. 31,228.—THOMAS G. DAVIS and JOSHUA PUNCHUS, of Elkhart, Ind.—*Improvement in Stump Extractors.*—Patent dated January 29, 1861.—The anchor or fulcrum is made circular at one end and curved to the front. The main lever is attached to the circular end, and braced by a supporting lever at the opposite end. A clevis, or claw-hook, is attached to the lower part of the main brace, by which the grub is seized when about to be extracted.

Claim.—The elliptic fulcrum A and framed lever B C, constructed as described, in combination with the adjustable clevis G, or claw-hook E, arranged and operating as set forth, which we call the "Pioneer Grub and Stump Extractor."

No. 31,229.—CHARLES G. DICKINSON, of Poughkeepsie, N. Y.—*Improvement in Harvesters.*—Patent dated January 29, 1861.—The object of this invention is to obtain a means for elevating the finger bar and sickle, to enable them to pass over obstructions that may lie in their path, and also to enable the machine to be drawn from place to place, the parts being so arranged that the driving mechanism will be automatically thrown out of gear as the finger bar and sickle are raised, and thrown in gear as they are depressed or allowed to descend to their working position.

Claim.—The employment of the hinged tube F, in combination with the finger bar G, sickle bar *f*, lever H, pinions *h k*, segment I, bar K, and lever J, when the above parts are constructed and arranged to operate substantially as herein shown and described.

No. 31,230.—SAMUEL ERHMAN, of Mount Joy, Pa.—*Improved Hinge.*—Patent dated January 29, 1861.—The part of the hinge attached to the jamb or frame is provided with a central joint in which is secured a pivot, projecting the same distance above and below, so that the joint on the door or shutter may fit on either end, thus serving as a right and left hinge, and allowing the hinge to be placed on the right or left hand side of the door.

Claim.—A loose-jointed hinge with a pivot E, projecting equally on both sides of the central joint of the one part A, with its conic heads, and the central joint of B, as set forth for the purposes specified.

No. 31,231.—ABIJAH FESSENDEN, of Boston, Mass.—*Improved Device for Straining Wood Saws.*—Patent dated January 29, 1861.—The sliding piece secured to the end of the saw blade is caused to move vertically and longitudinally on the bevelled edge of the projecting piece by means of a thumb screw, the object being to supersede the use of the common coiled rope and lever.

Claim.—The projection *l*, attached to or forming a part of the frame of the common wood saw, and the sliding piece *k*, secured to the blade of the saw, and which moves upon the bevelled edge of the said projection, the two, projection and sliding piece, being so arranged and operating together that, by the upward and downward movement of the sliding piece, the tension upon the blade of the saw can be increased or diminished, substantially as herein-before described and for the purposes specified.

No. 31,232.—AARON F. FRENCH, of Franklin, Vt.—*Improved Machine for Sawing Shingles from the Block.*—Patent dated January 29, 1861.—A series of circular saws are placed within a rotating head or cylindrical frame, and so arranged as to operate consecutively upon the bolt and cut the shingles therefrom. There is also used in connexion with the saws a bolt carriage, so devised as to be fed automatically to the saws, and by the action of the rotating head in which the saws are placed.

Claim.—The arrangement of the drum E and disk G, with the rim H attached, the drum and disk forming a rotating head, in which circular saws J are fitted, and the drum E serving as a means to rotate the saws while the latter are presented to the bolt by the rotation of the head, substantially as described.

Second, in combination with the drum E, disk G, and rim H, arranged as shown, the vibrating frame L and bolt carriage M, the frame being operated through the medium of the projections *l*, *m*, *n*, on disk G, and the bolt carriage M fed towards the saws by means of the double rack N and uprights *i i*, substantially as set forth.

No. 31,233.—E. S. GAYLORD, of Terrysville, Conn.—*Improvement in Trunk Locks.*—Patent dated January 29, 1861.—The bolt of the lock is made with a projection which passes through a slot in the lock plate, the projection being encompassed by a case which is attached to the front side of the lock plate, and of such form as to properly guide the hasp to receive the projection of the bolt. At the lower part of the hasp is formed a rounded hook which, in descending, forces aside the projection D.

Claim.—The bolt projection D, in connexion with the slot *a*, in the plate A, the case E, and the hasp F, provided with a concave or shell at its lower part, and a hook *b*, all arranged essentially as and for the purpose herein set forth.

No. 31,234.—W. F. GEORGE, of New York, N. Y.—*Improvement in Hair Crimpers.*—Patent dated January 29, 1861.—The fluted plates, with corresponding elevations and depressions, are attached to the inner sides of two wooden blocks connected at one end by a hinge, and provided with handles, for the purpose of curling a number of plaits or folds at one operation.

Claim.—A hair-crimping apparatus formed of fluted plates D D, attached to blocks A A, and connected at one end by a joint or hinge B, the blocks being provided with handles C, and the blocks and handles constructed of wood, or other material which is a good non-conductor of heat, all being arranged substantially as set forth, to form a new and improved article for the purpose specified.

No. 31,235.—N. S. GILBERT, of Lockport, N. Y.—*Improvement in Preserve Cans.*—Patent dated January 29, 1861.—The bale which passes over the cover has its end secured in loops on the sides of the can. The lever having two inclined sides acts as a cam, and being placed upon a pin under the bale and turned, forces the cover down upon the can.

Claim.—First, the employment of the cam lever *a*, as constructed, when used substantially as and for the purpose set forth.

Second, the combination of loop or bale *d*, cover *b*, pin *c*, and cam lever *a*, the whole being arranged and operated in the manner and for the purpose specified.

No. 31,236.—WARREN GLOVER, of New England Village, Mass.—*Improvement in Treadle Attachment for Sewing Machines.*—Patent dated January 29, 1861.—The object of this invention is to communicate motion from a treadle to the driving shaft of a machine in such a manner that the shaft cannot casually be turned in the wrong direction, and the shaft at the same time is rendered capable of being turned immediately under the tread of the foot in any position of the treadle. The concussion attending the movement of reciprocating parts, such as frames, rods, &c., is also obviated.

Claim.—The arrangement of the disks C C, collars B B′, arms E, eccentric F F, straps H H, and treadle G, with the shaft A, hub D, as shown and described.

No. 31,237.—H. HOWARD GRATZ, of Spring Station, Ky.—*Improved Machine for Indicating Railroad Stations, or Streets of Cities.*—Patent dated January 29, 1861.—The case is provided with a door, a portion of which is transparent, in order to exhibit through it a revolving canvas upon which is printed the desired intelligence. The canvas passes over rollers, one of which is hollow, and contains a shaft surrounded by a coil spring, one end of the spring being secured to the roller, and the other to the shaft, for the purpose of keeping the canvas properly stretched. A slide, held in position by a vertical spring, is arranged to move in grooves in one side of the frame. Two bars, provided with a coiled spring and racks, catch on the pins of a disk and cause it to revolve. The rack bar is thrown into gear with the disk on either side for reversing the direction of the canvas by means of a bolt operating upon the bars. The vertical slide G is operated by a sliding bar on the top of the box by means of a cord.

Claim.—First, the arrangement of the slide G, rack bars H H, disk J, provided with pins *x x x*, bars or rods *i l*, bolt *k*, and springs *m.d*, the several parts being constructed and used as and for the purpose specified.

Second, the employment of the rollers E F F and D, together with the band C, when said roller D is constructed in the manner represented, whereby the slack of the band or canvas is taken up as it passes from one roller to the other, substantially as specified.

Third, the arrangement of the bolt *k*, the pin *z*, and the plate *u*, together with the apparatus for revolving the canvas, substantially as specified.

Fourth, the bar P, the spring W, and the cords T and R, arranged and used in the connexion and for the purpose set forth.

No. 31,238.—WILLIAM M. HARDY and CHARLES W. HARDY, of East Strong, Me.—*Improved Apple Parer.*—Patent dated January 29, 1861.—The knife is so arranged as to be held up to the apple simply by the pressure of the hand instead of a spring, and the knife is brought in such a relation to the arbor which produces the rotary motion of the apple that on depressing the knife the apple after being pared is thrown off by the action of the machine itself, and that the fork which carries the apple is rendered stationary and ready to receive a new apple without stopping the motion of the treadle.

Claim.—First, the arrangement and combination of the knife G, lever *d*, hinge standard *b'*, pulley E, pins *g*, dog *f*, and arbor *a*, as described, so that by depressing or raising the knife the arbor *a* is thrown out of or into gear, as may be desired, for the purpose specified.

Second, the arrangement of the screw thread *h*, on the sleeve E, in combination with the spring slide H, dog *j*, arm *k*, and fork *e*, constructed and operating as and for the purpose specified.

No. 31,239.—JOEL HARRIS, of New Carlisle, Ind.—*Improvement in Water Wheels.*—Patent dated January 29, 1861.—This invention consists in combining a compound vertical gate with the water wheel and curved water guides. By means of the compound gate the capacity of the wheel may be increased or diminished more rapidly by allowing a greater or less surface of the buckets to be acted upon after the gate is raised above a certain height, by increasing or diminishing the extent of the "issue" or "vent" whereby the action of the "governor" of water wheels is rendered more sensitive and efficient in regulating the wheel to the varying amount of power required.

Claim.—The combination of a compound vertical gate D, with the water wheel J, and deflecting plates or water guides *h*, the whole being constructed, arranged, and operating in the manner and for the purpose specified.

No. 31,240.—R. F. HAREMAN, of New Brunswick, N. J.—*Improvement in Compositions of Caoutchouc.*—Patent dated January 29, 1861.—This invention consists in the production of a new compound, forming a substitute for ivory and bone, by the admixture of oxyd of zinc with the chlorine rubber compound produced as described in the patent granted to Englehard & Hareman, November 22, 1859.

Claim.—The compound produced by the admixture, in the manner shown and described, of oxyd of zinc with the within-mentioned patented compound of chlorine-treated rubber, or its chlorine-treated allied gums, as set forth.

No. 31,241.—R. F. HAREMAN, of New Brunswick, N. J.—*Improvement in Compositions of Caoutchouc.*—Patent dated January 29, 1861.—This invention consists in the production of a compound, forming a substitute for wood, ivory, and bone, by the addition to the chlorine rubber compound produced as described in the patent granted to Englehard & Hareman, November 22, 1859, of suitable quantities of lime, aqua-ammonia, and sal-ammoniac.

Claim.—The compound produced by the admixture of lime, aqua-ammonia, and carbonate of ammonia, in the manner described, with the within-mentioned patented compound of chlorine-treated rubber, or its chlorine-heated allied gums, as set forth.

No. 31,242.—ROBERT HITCHCOCK, of Watertown, N. Y.—*Improvement in Winding Clocks.*—Patent dated January 29, 1861.—The rear portion of the case of the clock, being more or less open, is made to project into a hole cut in the wall of the room, in direct or indirect connexion with the chimney so as to induce a current of air through the clock for the purpose of giving motion to a flutter-wheel so as to wind automatically upon the clock spring. The flutter-wheel is hung fast to the main-spring arbor, and a weak or sensitive main-spring is employed, which lies within a barrel rotating on the arbor, one end of the spring being fast to the arbor and the other to the barrel. The escapement wheel is also hung on the same arbor. The windlass or barrel is made in two sections, one on either side of a collar capable of longitudinal movement on the shaft, but geared to turn it. The gearing of either section alternately with the windlass shaft is made automatic by means of spring latches on either barrel section, which the rope in winding up depresses and so urges the collar into gear with one or the other barrel, the collar having teeth on both sides or faces to effect its gear alternately with either barrel.

Claim.—The arrangement of the flutter-wheel, or its equivalent main-spring, with its drum or barrel and escapement wheel of the clock upon one and the same shaft.

Also, the employment, in combination with a winding-up flutter-wheel, or its equivalent, of a weight or weights as a substitute for the main-spring of the clock by suspending the weight as described, and alternately winding and unwinding it on and from distinct barrels or barrel sections thrown into alternate gear with the barrel shaft, substantially as described

No. 31,243.—SYLVESTER S. HITCHCOCK, of Chicago, Ill.—*Improvement in Scales.*—Patent dated January 29, 1861.—The links F attached to the end of the main levers are hung on convex brackets projecting from the marginal lining of the vault. Hinged bars are hung at the rear of the main levers and extend over their axes and through links C, resting on adjustable knife-edged fulcra, which are set in slides connected to the main levers by slots, screws, and nuts, so as to be readily graduated relatively to the corner bearings and fastened. The feet of the bracket B rest on pivotal bearings of the links C, so that the motion of the platform is borne by the links instead of the knife-edged fulcra.

Claim.—First, the combination and arrangement of the main lever G, hinged bar D, leg or bracket B, links F C, knife-edge bearings L J, and pivotal bearings *f* and *g*, substantially as described and for the purpose set forth.

Second, the combination of the hinged bar D, main lever G, and adjustable slide H, with knife-edge bearing on its top, substantially in the manner and for the purpose described.

No. 31,244.—S. JAQUA, of Paterson, N. J.—*Machine for Rolling Railway Tire.*—Patent dated January 29, 1861.—This invention consists in the employment, in combination with the ordinary pressing rollers, of a top roller acting on the edge of the tire previous to its passing through between the ordinary pressing rollers, said top roller being arranged on a lever or connected with some other similar device to produce the requisite pressure on the edge of the tire. The lever to which said top roller is attached has its fulcrum in a swivel head, which allows of adjusting said rollers to the varying diameters of different tires, and flanged guide rollers serve to facilitate the motion of the tire while the operation of rolling proceeds.

Claim.—The employment of the roller H, lever I, swivel J, and screw *d*, in combination with the rollers A B, in the manner and for the purpose substantially as shown and described.

Also, the arrangement of the rollers F F, and adjustable carriages G G, with the rollers A B H, as and for the purposes shown and described.

No. 31,245.—WILLIAM JONES, of St. Louis, Mo.—*Improvement in Hemp-Brakes.*—Patent dated January 29, 1861.—In the back of the frame are two spring bars which are brought together at the front ends and united on a block and sheave. The lifter is fixed upon a pivot so as to vibrate freely in a vertical plane. On one side of the drum is placed an arm which, in revolving, comes in contact with the lifter by means of which, in connexion with a cord, the brake is operated, motion being produced by a treadle.

Claim.—The arrangement of the lifter N, the arm on the drum D, the cord *a*, and spring standards *b*, in the manner described, for the purpose of operating the brake F.

No. 31,246.—EDWARD M. JUDD, of New Britain, Conn.—*Improved Curtain Fixture.*—Patent dated January 29, 1861.—The clamp is constructed with a bent lip or arm so arranged that when the clamp is in lock the lip lies near to or loosely covers the tape, and on drawing the tape for raising the blind the clamp will be raised. The cord or tape can be arrested at any moment on allowing the clamp to lock.

Claim.—The automatic clamp, substantially as described, by forming it of a drop lever, provided with a projecting and controlling lip, or sustaining branch or arm, so arranged as that the winding tape or cord may be used to keep the clamp from falling into lock in the downward run of the blind, essentially as set forth.

No. 31,247.—HENRY LANERGAN, of East Cambridge, Mass.—*Improved Deck Light.*—Patent dated January 29, 1861.—This light is constructed wholly of glass, and provided with a screw by which it may be fitted into a cylindrical opening in the deck. The lower part is constructed with polygonal sides so as to fit a wrench by which it can be fastened into the deck.

Claim.—The improved manufacture of glass deck light, as constructed with the several parts *a b c d* thereof, arranged together substantially in the manner and so as to operate together and for the purpose as specified.

No. 31,248.—J. ALBION LAW, of Meredeth, N. Y.—*Improvement in Fire Escapes.*—Patent dated January 29, 1861.—This invention consists of a metallic reel, to which are fixed strong hooks so shaped as to readily clasp a window sill or strong bar placed against the inside of the window casings. To the axle of the reel is secured a ladder, made of chains and wire for convenience of rolling up, the lower end of which may be fastened by hooks to the curb. A fire-proof flexible tube is attached to the ladder for conveying persons or valuable articles to the ground.

Claim.—A fire escape ladder, constructed substantially as described, so that it can be secured or made fast at both ends, and strained and held firm and tight for the purposes mentioned.

Also, in combination with a ladder so constructed and arranged, the use of the bag or tube F, substantially as set forth.

No. 31,249.—JOHN A. LETTS, of Trumansburg, N. Y.—*Improvement in Adjustable Carriage Brakes.*—Patent dated January 29, 1861.—The crank-shaft to which the lever is attached is secured in boxes under the forward part of the vehicle. The connexion between the crank and brake bar is made adjustable in length by means of a lap joint, on the side of which are perforated plates to allow of the bolts being changed from one to the other as may be required.

Claim.—The combination of the lever M, the crank-shaft L, connecting bar N, made adjustable by means of the plate T and bolt V, the same acting on the brake bar O and the rubber W, as described.

No. 31,250.—GEORGE F. LETZ, of Chicago, Ill.—*Improvement in Rolling Iron Shutters.*—Patent dated January 29, 1861.—This shutter is composed of a series of slats made of two sheets of metal secured together. A portion of the upper or lower edges of the inner sheet is bent so as to form nearly a complete cylinder, over which is bent the upper end of the outer sheet, and the lower end of the latter is bent so as to form a semi-cylinder sufficiently large to encompass the interlocked ends of both sheets. Pivot rods and friction rollers are used to prevent friction between the shutter and guide ways.

Claim.—First, the combination in a rolling iron shutter of the curved ends *s t u*, the said ends being fitted together substantially in the manner and for the purposes set forth.

Second, the combination with the hinge joint *s t u* of the pivot rods *c* and friction rollers *d*, substantially as and for the purpose set forth.

No. 31,251.—F. A. MARSHALL, Marlborough, Mass.—*Improved Lamp or Candle Stand.*—Patent dated January 29, 1861.—From the bottom of the candle dish extends a metallic arm or strut, and from the edge of the dish a spring hook with a bent point is projected directly over the strut. The end of the strut being placed against the window pane, the point of the hook is forced into the bar, by which it is securely fastened to the window sash, when desirable for illumination.

Claim.—The improved lamp or candle stand, as constructed with the strut B, and the spring hook C, arranged and applied to it substantially as and for the purpose specified.

No. 31,252.—J. J. MCCOMB, of New Orleans, La.—*Improvement in Iron Ties for Cotton Bales.*—Patent dated January 29, 1861.—This invention is explained by the claim and engraving.

Claim.—Forming the link or tie with an oblong aperture, one end of which is arrow-shaped, or rather presents two sides of an equilateral triangle; the design of this arrow-shaped end being not only to force the hoop or bend of the hoop over the slot, which it does with unerring precision, when the bale expands, after being released from the press, but also to secure an equal bearing upon the separate parts of the slotted side of the tie.

No. 31,253.—ALEXANDER MILLAR, of New York, N. Y.—*Improvement in Cork-cutting Machines.*—Patent dated January 29, 1861.—A horizontal slide rest extends the entire length of the frame. Upon this rest is a sliding carriage, which receives an alternate reciprocating motion from a bell-crank, through a connecting rod provided with a coupling link. A travelling rock-shaft passes over the carriage, and carries on one end a semi-circular knife, and on the opposite end is keyed a sector spur-wheel, which engages with a rack bar parallel with and below the slide rest, and gives a semi-rotary motion to the knife, upon the motion of the carriage.

Claim.—The semi-circular knife G, rock-shaft E, spur-wheel H, rack I, in combination with the reciprocating carriage C, and slide rest B, when the same are arranged so as to operate substantially in the manner and for the purposes specified.

No. 31,254.—CHARLES L. MOREHOUSE, of Jackson, Tenn.—*Composition for Lubricating Journals, Axles, &c.*—Patent dated January 29, 1861.—The materials used in this compound are common soft soap, flour or pulverized sulphur, lamp black, charcoal, fat salt pork, cotton wool or batting, common fine salt and lard oil, duly mixed and prepared.

Claim.—The lubricating composition described, compounded of the materials in the proportions and manner specified.

No. 31,255.—EDMUND MUNSON, of Utica, N. Y.—*Improvement in Machine for Facing and Polishing Millstones.*—Patent dated January 29, 1861.—The millstone is supported by arms placed in a socket on the upper part of the shaft. Upon the horizontal frame is placed a sliding frame Q, which may be adjusted back and forth by means of a rack and pinion. At the front of the sliding frame are two uprights, between which is placed the sliding frame U, which has a frame V attached to its back-side, working on uprights. In the lower part of

frame U are placed two horizontal cutter heads, provided with vertical cutters. A rotary motion being given to the millstone causes a reciprocating motion to be given to the cutters. When the stone is faced, a rotary polisher is made to act upon it by the same belt which assists in operating the cutters.

Claim.—First, the employment or use of the cutters g', placed in suitable cutter heads f, having a rising and falling movement, in connexion with the rotary millstone-shaft K, arranged for joint operation with the cutters g', substantially as and for the purpose set forth.

Second, the arrangement of the adjustable frame U V and frame Q, substantially as shown, so that the former frames U V may be raised or lowered and adjusted relatively with the millstone as desired, and the latter frame Q moved horizontally, so that the frames U V may be drawn back from above the surface of the millstone when desired.

Third, in connexion with the cutters g', the rotary polisher B' placed in the frame V, and arranged substantially as shown, so as to be operated by the same belt C' which rotates the shafts X X in the frame U that assist in operating the cutters g'.

Fourth, the arrangement of the sliding pinion g on shaft H, the belt M, wheel J, on shaft K, the shaft G, with its screw e and wheel d, and the shaft F, with its screw c and belt C' passing around the pulleys on the shafts X X Z, all being arranged substantially as and for the purpose set forth.

Fifth, the chuck or holding plate B*, provided with the radial sockets c*, and so arranged as to be applied to the rotary shaft K, for the purpose specified.

No. 31,256.—A. J. MYER, of Buffalo, N. Y.—*Improved System of Signalizing.*—Patent dated January 29, 1861.—The signal, which in the day may be a ball of some decided color, and in the night a light, is attached to a frame by a rod, which is so arranged as to be easily moved in any direction. The motion or combination of motions of the signal each indicate an understood sign.

Claim.—The combination of motion with a signal or signals, (either day or night signals,) for out-of-door or field use, as applied to a complete system of field signalling, in which all letters or figures, or combination of letters and figures, are indicated by distinct motions or combinations of motions, each motion or combination having a separate and understood value, substantially as set forth.

No. 31,257.—NATHAN F. NEWELL, of Northbridge, Mass.—*Improvement in Centering Bars of Iron.*—Patent dated January 29, 1861.—The object of this invention is to seize the material to be centered and squared a short distance from the end, where the shape has not been altered in cutting off, and hold and guide it so that its axis shall be in a line with the centres of the engine lathe, while the cutters and drill in the chuck, on the revolving spindle, square the ends and centre it simultaneously.

Claim.—The combination of the chuck with the jaws, operated by levers, bar, treadle, &c., described, for the purpose of centering and squaring up the ends of material to be turned.

No. 31,258.—TITUS POWERS, of Philadelphia, Penn.—*Improvement in Locks.*—Patent dated January 29, 1861.—The fence of the lock consists of a hub hung on a pin, secured to the interior of the case, and adapted to the pin and three arms projecting from the hub. The fence is arranged to occupy two positions, one of which, the arms i and j, are thrown forward, and the arm k thrown back against a permanent stop, which enables the key to turn the bolt. When a wrong key is applied, the tumblers and carriers are so arranged as to present a solid obstruction, owing to the movement of the fence.

Claim.—The employment of the described fence, having arms i j and k, formed substantially as described, when the said fence is so applied to a lock that, on attempting to pick the same, one or more of the tumblers will so act on the fence as to cause the latter to obstruct the withdrawal of the bolt, without any strain being exerted on the said tumblers, as set forth.

No. 31,259.—TAMSON G. RICH, of Milton, Mass.—*Improvement in Ankle-supporting Gaiters.*—Patent dated January 29, 1861.—This invention consists in a gaiter of cloth or other suitable material, which embraces the heel and ankle, and extends up above the ankle joint, the requisite stiffness for supporting the ankle being furnished to the gaiter by a series of ribs of whalebone or other pliant material, which are properly secured to the cloth or other material of which the gaiter is composed, to prevent the foot from turning under when skating.

Claim.—The described ankle-supporting gaiter, in which a series of strips or ribs a of whalebone or other pliant material surround the ankle, and, by extending above the ankle joint, gives the required support to it, substantially in the manner set forth.

No. 31,260.—C. G. SARGENT, of Chelsea, Mass.—*Improved Clothes Dryer.*—Patent dated January 29, 1861.—The rope by which the frame is raised and lowered is connected to the arms on opposite sides of the standard, by which means the binding of the hub of the arms on the arbor is obviated, and the arms readily adjusted to any desired height.

Claim.—The arrangement of the rollers a c, rings D F, pulleys J K L M, and rope I, with the arms C, braces E, and swivel head H, in the manner and for the purposes shown and described.

No. 31,261.—CLARK SHAW, of East Aurora, N. Y.—*Improved Window Stop and Fastener.*—Patent dated January 29, 1861.—The cam, to which a knob is attached, is placed between the bent bar and stop, so that when the cam is turned it will act against the bar and draw the stops inwardly, compressing the springs and releasing the hold of the stops and fastener upon the sash, so that both hands can be used for moving the sash when required.

Claim.—Operating the spring stops *i i''* by means of the cams L L' and knobs N, the same being arranged and operated for the purpose and as set forth.

No. 31,262.—J. B. SLAWSON, of New Orleans, La.—*Improvement in Fare Boxes.*—Patent dated January 29, 1861.—This improvement consists in combining with the slide or its equivalent and the drawer that receives the fare a receiving chamber, so constructed as to present obstructions at different points to the withdrawal of the fare, either by making the glasses, which form its sides, crooked or of a curved form, or in so arranging other obstructions within them as to render it impracticable to abstract the fare.

Claim.—Constructing the receiving chamber C^2, of glass plates *c c' d d'*, in the manner and for the purposes substantially set forth, in combination with the slide D, and drawer B, the whole being constructed and operated substantially in the manner and for the purpose set forth.

No. 31,263.—JOHN C. SMITH, of Troy, N. Y.—*Improvement in Sewing Machines.*—Patent dated January 29, 1861.—This device is designed to obviate the difficulty of turning the cloth directly by the hand or fingers, as on the ordinary stationary sewing plates, and to obtain uniform curves or angles.

Claim.—In combination with the needle bar or its equivalent, the revolving sewing plate H, with its flexible arm X, and boss J, so constructed and arranged as to be rotated or turned by hand in directions as desired about the needle and bar as a centre of motion, and also hold the cloth between the plate and boss when being sewed, being constructed and arranged substantially, and operating in the manner and for the purposes, as fully described and shown.

No. 31,264.—JUSTUS S. SMITH, of Lowell, Mass.—*Improved Bed Bottom.*—Patent dated January 29, 1861.—A series of longitudinal bars are secured to two cross bars near each of their ends. To the lower side of each cross or supporting bar is fastened a semi-elliptical or bow spring, the ends of which are attached to hangers supported on hooks secured to the bedstead.

Claim.—My improved manufacture of spring bed foundation or arrangement of slats, bow springs, and hangers, as specified.

No. 31,265.—PLINY F. SMITH, of New York, N. Y.—*Improvement in Necktics.*—Patent dated January 29, 1861.—The bow is made permanent to the "tie," which is fastened by a clasp in the rear of the bow. Elastic cords are placed in the back, so as to render the tie self-adjusting.

Claim.—As a new article of manufacture, the necktie described.

No. 31,266.—GEORGE B. SNYDER and JAMES GORTON, of Yorkville, N. Y.—*Improved Stove Lining.*—Patent dated January 29, 1861.—This improvement consists in constructing the stones, bricks, clay, or other non-conducting substance, of which the fire-pot lining is composed, with air passages in them, thus avoiding the use of the inner drum and also preventing the air from becoming too highly heated.

Claim.—The lining provided with air passages connecting with the hot air chamber, in the particular manner and for the purposes set forth.

No. 31,267.—S. C. ST. JOHN, of Edmeston, N. Y.—*Improvement in Locks.*—Patent dated January 29, 1861.—The parts are so arranged, in connexion with a plate which may be provided with figures and placed in varying positions, that no person but the one that locked the lock or adjusted the plate can turn it, so as to bring the hole, with which it is provided, in line with the spindle D, against which the key is pressed.

Claim.—The combination and arrangement of the plates H I, spindles D G, provided with the projections *b h'*, the stationary plate F, pinion C, and bolt D, provided with the rack *a*, as and for the purpose set forth.

No. 31,268.—FREDERICK TOWNSEND, of Albany, N. Y.—*Improvement in Breach-Loading Fire-Arms.*—Patent dated January 29, 1861.—This invention is intended to furnish a gas-tight joint at the point of conjunction of the load chamber and the bore of the barrel, with a provision for the maintenance of that joint gas-tight, although the force of the fixed charge, by the yielding of the frame or manœuvring apparatus, should cause the movable breach to set back, temporarily or permanently, that provision to be automatic, independent of adjust- by hand.

Claim.—First, the combination of the movable thimble G, the chamber *a a a a*, the recess or packing-chamber *e e*, between the front end of the thimble G and the rear end of the bore of the barrel, in the manner described and for the purposes set forth.

Second, the method of forming and maintaining in the manner described a gas-tight joint by the abrasion of material from the bullet against the edge of the barrel, and its deposit and compression into a variable recess or packing-chamber formed for its reception between the front end of a movable thimble and the rear end of the bore of the barrel.

No. 31,269.—A. RENAUD TRABER, of St. Martinsville, La.—*Improved Table-Fan.*—Patent dated January 29, 1861.—An oscillating or rotary fan is secured to a shaft, which has its bearings in standards rising from the top of a table, motion being imparted to the fan by means of a treadle. The table, with the fan, can be removed without difficulty to any desired place, and a person can operate the fan while sitting before the table and employ the hands for some other purpose at the same time.

Claim.—The arrangement of the fan D, in combination with the standards C, table A, and treadle E, constructed and operating substantially in the manner and for the purpose set forth

No. 31,270.—JOHN C. TREADWELL, of Albany, N. Y.—*Improvement in Cooking Stoves.*—Patent dated January 29, 1861.—The fire-box, instead of having a grating for its bottom, is provided with a plate D, having a series of openings. A slide-valve or damper is placed either above or beneath the plate D, and serves the purpose of covering or uncovering the openings in the said plate. The use of this valve or damper in this way is designed to more perfectly control the draft.

Claim.—In connexion with the damper or valve H, the plate J, constructed and arranged as and for the purpose specified.

No. 31,271.—EMIL TRITTEN, of Philadelphia, Pa.—*Improvement in Lamps.*—Patent dated January 29, 1861.—The object of this invention is to produce a light entirely free from smoke in the use of coal oil, and dispense with the glass chimney.

Claim.—The combination of the flange or projection O, the diaphragm L L, the air chambers F and G, the wire-gauze guards H and H′, the wire gauze guard I, the cover E, and the tube S, in the manner and for the purpose substantially as described.

No. 31,272.—P. L. WEIMER, of Lebanon, Pa.—*Improvement in Steam-Engines.*—Patent dated January 29, 1861.—This invention consists in arranging a double vibrating lever to operate on two sliding latches in the valve stems of the valves, the projections of which latches from the valve stems are regulated by cam-shaped rods, actuated by the governor in such a manner that when the balls fly out the latches recede, whereby the motion or travel of the valve is diminished, and when the balls of the governor fall the latches project, which gives greater motion or travel to the valves, consequently admitting more or less steam to the cylinder, as the case may be. When the latches are out their full length the steam is admitted the entire stroke, as they then remain in contact with the double vibrating lever during the entire stroke of the engine, the said lever being vibrated by an eccentric on the engine shaft.

Claim.—The cam-shaped rods K K′, cranks M M′, rod N, in combination with the latches F F′, for the purpose of regulating the projecting length of said latches from the valve stems B B′, for the purpose as described and specified.

No. 31,273.—MAURICE WESOLOWSKI, of New York, N. Y.—*Improved Apparatus for obtaining Light by Frictional Electricity.*—Patent dated January 29, 1861.—An insulated vessel filled with cotton-wool, saturated with bisulphuret of carbon or any other equally inflammable liquid, is placed on a stand, and connected by a wire with a small electrical machine on the stand. Another wire, supported on the stand and uninsulated, is so arranged as to be brought over the summit of the lamp, and thus acts as a discharger, a spark being produced by which the liquid is ignited.

Claim.—The application and use of bisulphuret of carbon, or any other equally inflammable liquid capable of being decomposed and ignited by an electric spark, and contained in an insulated vessel, in combination with a frictional electric machine, the whole being arranged in the manner and for the purpose described.

No. 31,274.—HIRAM E. WEST, of Attleborough, Mass.—*Improvement in Machine for Pressing Bonnets.*—Patent dated January 29, 1861.—The yoke with levers and hooked arms acts so as to force the block into the mould at the same time that it is expanding laterally. The elastic covering is put over the block, so as to prevent injury to the straw.

Claim.—First, the mould A, to form the bonnet to be pressed, in combination with an expansion block, when the same is made in sections, and each section distended simultaneously by means of a wedged block K and screw J, or the equivalents thereof, essentially as described.

Second, the yoke P, levers R R, and hooked arms S S, in combination with the hand-wheel L, when the same are all arranged so as to operate simultaneously with the expansion block M, for the purposes and in the manner substantially as set forth.

Third, in combination with a block constructed substantially as herein set forth, I claim the elastic covering, as and for the purpose described.

No. 31,275.—ELISHA H. WHEELER, of Keokuk, Iowa.—*Improvement in Harvesting-Machines.*—Patent dated January 29, 1861.—This invention consists in certain improvements in the mechanism for depositing the gavels of grain upon the ground at intervals, which is accomplished by a rake, caused to move backwards and forwards by the pitman and eccentric crank, and so arranged that when it is passing back it is elevated from the ground. The revolving concave receives the sheaf and deposits it on the ground in proper form.

Claim.—The raking attachment, consisting of the railways A and B, car D, rake E, with its arm *o*, and roller *i*, guide-track F, in combination with the revolving concave J, arm and roller K, and guide-plate L, when arranged and operating substantially as set forth.

No. 31,276.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improved Anchor Well and Anchor.*—Patent dated January 29, 1861.—This device is more especially designed for spindle-shaped vessels. A well is made in the vessel, and in the upper part is placed a pulley, over which the cable passes, and from thence to a windlass in the body of the vessel.

Claim.—An anchor well and windlass, arranged substantially as set forth, for the purpose of enabling the anchor to be hoisted directly into the body of the vessel.

Also, the combination of an anchor well in the hull of a vessel with an anchor having a butt of the proper shape to close the orifice of the anchor well when the anchor is drawn up.

No. 31,277.—P. H. WOOLSEY, Andes, N. Y.—*Improvement in Shingle Machines.*—Patent dated January 29, 1861.—This invention consists of an adjustable frame, turning upon a fixed point, and carrying a revolving cutter, feed-rollers, and adjustable guides, and operated by the wedged-shaped article being planed, and the pressure of a weighted lever, in combination with a cutter, feed-roller, and guides, on a stationary frame, whereby the wedge or shingle may be planed simultaneously on both sides to any angle or degree of taper.

Claim.—The arrangement of the swinging or moving frame E with its rollers, revolving cutter, guide-plate, and weight, in combination with those of the opposite stationary frame A, constructed and operated as described.

No. 31,278.—LINUS YALE, jr., of Philadelphia, Pa.—*Improvement in Locks.*—Patent dated January 29, 1861.—The revolving tumbler is provided with pins, which press against bolts resting on springs inserted in a chamber in the case of the lock. When these pins are in position the bolt keeps the tumbler from revolving, but the pins can be pressed down by the key, thus pressing down the bolts, and allowing the tumbler to revolve. The flat plane is uppermost when the lock is unlocked.

Claim.—First, using a revolving tumbler for a bolt, when the same is used in the described manner or in an equivalent manner with jointed pins, which are the stops or guards.

Second, reversing the main plate of a pin-lock to answer the purpose of an escutcheon, to protect the drawer, &c., from injury by the key.

Third, the flat plane *n n* on the revolving tumbler, for the purpose described.

Fourth, the part *m*, for the purpose described.

Fifth, the use of a metal keeper C, when the same has a front plate, to complete the design of the front of the lock.

Sixth, the thin curb around the tumbler, instead of the ordinary case of this class of lock, thereby saving metal and cheapening its construction.

Seventh, placing the projection *a'*, or spring chamber, opposite the bolt hole, so that the drilling thereof may be done from the inside without making an outward opening.

Eighth, the use of, in this class of lock, flat-ended and close-jointed pins, with the least possible waste or rounding of corners.

No. 31,279.—WILLIAM BURNETT, of Boston, Mass., assignor to ROBERT BURNETT, of New York city.—*Improved Steam Pressure Gauge.*—Patent dated January 29, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—Obtaining an increased or enlarged first motion in pressure gauges or indicators through the agency of a bar or arm securely and rigidly affixed to the elastic medium upon which the pressure acts, at a point removed from its center or point of greatest direct motion, and in such a position that a lateral motion of the free end of said bar or arm is induced and employed, through suitable mechanism, to indicate the pressure, substantially in the manner and for the purpose herein specified.

No. 31,280.—JOHN B. GIBBS, of Boston, Mass., assignor to Himself and JOHN PEARSON, of Roxbury, Mass.—*Improvement in Skate Fastening.*—Patent dated January 29, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—A skate fastening, consisting of the lever D pivoted at one end to the skate, and caught at its other end by a ratchet or equivalent fastening; the drawing down and catching of the lever binding or securing the skate to the foot, substantially as described.

No. 31,281.—A. RANSOM, Manheim, N. Y., assignor to Himself and G. R. COMSTOCK, Herkimer county, N. Y.—*Improved Machine for Turning Boot Legs.*—Patent dated January 29, 1861.—A series of metallic tubes, of different dimensions, to accommodate the various sizes

of boot legs to be turned, are placed upon a horizontal moveable base. To the upper part of these tubes are attached rims resting upon the tubes and an outer casing, for the purpose of preventing friction on and in the shell of the tubes. The sliding base is perforated with holes for the reception of a stop pin which, in connexion with a spring, serves to retain the sliding plate and tube over the proper hole in the frame.

Claim.—The series of tubes T T T T, constructed and combined with their rims R R R R, substantially as set forth, in combination with the sliding base C, with its holes *ffff* and stop pin P, combined with spring S, or their equivalents.

No. 31,282.—LEVI SHORT, of Buffalo, N. Y., assignor to Himself and CHARLES S. PIERCE, of Buffalo, N. Y.—*Improvement in Vapor Lamps.*—Patent dated January 29, 1861.—The heaters are plates of metal placed between the orifices upon the burner through which the gas issues, and these plates by coming in contact with the blue flame become heated, and thus, by conduction of heat in the other parts of the burner, facilitate the production of gas.

Claim.—The heaters *h'* formed on the roof of the burner, so that the jet of gas shall be between them, thereby securing the blue portion of the flame for heating, and the white portion thereof for light, substantially as set forth.

No. 31,283.—ENOCH WEIGHT, of Charlestown, Mass., assignor to Himself and N. G. SIMONDS and J. B. CAPP, of same place.—*Improvement in Railroad Chairs.*—Patent dated January 29, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—My improved mode of constructing the chair body A with a recess for the reception of the elastic cushion, and applying and arranging such elastic cushion and its cap or supporting plate relatively to the recess, and with respect to the bearing surface on which the rail rests, the whole being as above described and as represented in the accompanying drawings.

No. 31,284.—M. L. BALLARD, of Canton, Ohio.—*Improvement in Making Finger Guards for Harvesters.*—Patent dated January 29, 1861.—This invention consists in a device for completing and finally finishing wrought-iron guards for harvesting machines, so that they may be immediately applied and made to fit perfectly when placed upon the finger beam. The finger guard, after being heated, is placed upon the end of the tongs and forced into exact conformity by hammering.

Claim.—The device above described, consisting of the part A, with its jaw D, shoulder *d* and inclined tongue E, in combination with the part B, with its jaw C and pivot *a*, for the purpose of facilitating the manufacture of wrought-iron guards or fingers for harvesters, as set forth.

No. 31,285.—LEWIS MILLER, Canton, O.—*Improvement in Making Finger Guards for Harvesters.*—Patent dated January 29, 1861.—The object of this invention is to obtain a portable implement for forming a finger guard which shall exactly correspond with the others that form the series, so that when placed on the finger bar they shall have uniform lines.

Claim.—A portable shaping or trueing tool, having the forms of a harvester guard or finger reverse upon it, and in or to which said guard may be clamped by tongs or handles whilst being carried to be heated, formed or wrought into shape, to be easily handled, substantially as described.

No. 31,286.—GEORGE C. AIKEN, of Worcester, Mass.—*Improved Heel Attachment to Boots and Shoes.*—Patent dated February 5, 1861.—This invention consists in making a groove in the iron heel and filling the same with India-rubber, to avoid the noise caused by the metal and at the same time secure an elastic bearing.

Claim.—The combination of the grooved metal part A with the rubber or elastic part B, substantially as and for the purposes set forth.

No. 31,287.—J. B. AIKEN, of New York, N. Y.—*Improvement in Knitting Machines.*—Patent dated February 5, 1861.—The knitting machine is of the ordinary circular kind, and the invention consists in a device by which it can be attached to an ordinary table and operated in that position with facility.

Claim.—The construction of the framing with jaws B C, ring A, and piece D, in the manner herein shown and described.

No. 31,288.—JOHN ALBERT, of Philadelphia, Pa.—*Improvement in Tuning Pegs for Violins, &c.*—Patent dated February 5, 1861.—The tapering head and tapering projection fit into tapering recesses in the neck or handle of the instrument, the handle of the peg serving to turn it so as to wind up the string. By turning the nut which is made to bear against a shoulder on the tapering projection, said projection and the tapering head are forced into tapering recesses on the handle of the violin so as to hold the peg securely.

Claim.—The pin B, its tapering head *b* and nut *c*, in combination with the handle D and tapering projection E, the whole being constructed and applied to a violin or other stringed instrument substantially as and for the purposes set forth.

No. 31,289.—TYLER ANDREWS, of North Easton, Mass.—*Improvement in Adjusting Coupling Links for Railway Carriages.*—Patent dated February 5, 1861.—The bar A is supported on the arm on each side of the draw bar, and is raised up by a lever attached to one end; when raised the link which rests upon it is brought up to a horizontal position so as readily to enter the draw bar of the approaching car.

Claim.—The application and arrangement of the link lifter and supporter, composed of the bar A and lever C, with the railway carriage draw bar, substantially in the manner and to operate the link as specified.

No. 31,290.—FREDERICK ASHLEY, of New York, N. Y.—*Improved Ice Chair.*—Patent dated February 5, 1861.—This invention consists in making a frame of a number of pieces of wood, metal, or other material properly shaped and proportioned, to be at once light, compact, and sufficiently strong, and so fitted and fastened together by riveted bolts, or their equivalents, as to have flexible joints so as to be capable of being expanded into the form of the frame of a chair when desired, or of being closed and brought into such shape and reduced bulk as to become conveniently portable, suitable runners being attached to the lower extremities of the frame.

Claim.—The combination of a flexible frame, with runners, the whole constructed substantially as and for the purposes set forth.

No. 31,291.—BENJAMIN T. BABBIT, of New York, N. Y.—*Improvement in Ordnance.*—Patent dated February 5, 1861.—This invention consists in the employment of a tube or casing surrounding the barrel in such a manner that there is formed around the latter, between it and the said tube or casing, an annular passage through which a violent and copious rush of air is produced in a forward direction by the discharge of the piece, such rush of air having the effect of cooling the barrel in some degree after every discharge.

Claim.—The employment of a tube or casing B, surrounding the body or barrel of a piece of ordnance or firearm, substantially as and for the purpose specified.

No. 31,292.—G. H. BABCOCK, of New York, N. Y.—*Improvement in Apparatus for Mitreing Printers' Rules.*—Patent dated February 5, 1861.—The plate, constituting one arm of the vise, is made so as to have an adjustable movement on the segment placed below the emplate, and may be fastened by a thumb-screw so that both can be adjusted at any angle under the plate, and the rule mitred accordingly.

Claim.—The combination of an adjustable steel template with a vise, or their equivalents, constructed and operating substantially in the manner and for the purpose described.

No. 31,293.—NORMAN R. BALDWIN, of Afton, N. Y.—*Improved Cart.*—Patent dated February 5, 1861.—The bed of the cart body is attached to two bolsters secured to the axle by jointed levers, which allow the bed to have a longitudinal motion on the axle. The cart body is pivoted to the inner end of these levers, so that in descending a hill the levers will move the cart body backwards sufficiently far to counterbalance the downward increased pressure on the shafts, which are attached to the bed of the cart body, and in going up hill the levers will move the cart body forward so as to bring the weight nearer to the horse. By moving one end of the flat bar J forward the springs H H are forced apart and thus released from the cross-tree, and the cart body being released from the shafts, which are pivoted to the bed, the body can be upset or dumped.

Claim.—The pivoted levers D D connecting the movable bed or frame C to the axletree at *c' c'*, and the cart body to the bed or frame C at *c c*, substantially as described.

Also, in combination with the bed C, having a longitudinal movement on the axletree, the cross-piece L, rod *k*, spring *j*, brake bar K, jointed rods *l l*, staples *n n*, and blocks or rubbers *k k*, combined and operating together as and for the purposes set forth.

Also the bar J, pivoted to the front part of the cart body, springs H H, and crosstree G, in combination with the jointed shafts C' C', as and for the purpose set forth.

No. 31,294.—THOMAS J. BOTTOMS, of Thomasville, Georgia.—*Improvement in Horse Powers.*—Patent dated February 5, 1861.—The claim and engraving explain the nature of this invention.

Claim.—The manner of adjusting the gearing by means of the sliding-boxes *g*, cross-pieces *h*, screw *e*, and nuts *d* and *f*, in combination with the gearing, as arranged, the whole operating as described and for the purposes set forth.

No. 31,295.—JOHN C. BRIGGS, of Concord, N. H.—*Improved Guard to Flatirons.*—Patent dated February 5, 1861.—This invention consists in applying to the flatiron of ordinary use a cover or reflector, of more or less highly polished metal, for the purpose of preventing the radiation of heat. The reflector is slipped on over the handle, through a slit made in the centre.

Claim.—The combination of the cover or reflector, made substantially as described, with a flatiron or sadiron, as and for the purposes described.

No. 31,296.—EBENEZER CATE, of Franklin, N. H.—*Improved Horseshoe.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—Forming or constructing a horseshoe with a thin internal web A, in combination with a grooved continuous caulk, substantially as set forth.

No. 31,297.—NELSON W. CLARK, of Clarkston, Mich.—*Improvement in Journal Boxes.*—Patent dated February 5, 1861.—The wood is firmly wedged on each journal box so as to present a smooth semi-circular surface to the axle, and the upper half of the journal box is made hollow so as to contain oil, which, by means of a small channel between the two halves of the box, is supplied to the wooden bearings.

Claim.—In combination with a metallic journal box, the filling of the same with wood for the journal bearers, when arranged and secured, substantially as described and represented.

No. 31,298.—P. C. CLARK, of Reading, Pa.—*Improvement in Fountain Pens.*—Patent dated February 5, 1861.—The conducting-rod is secured to a piston head at the top of the handle, and, passing through to the pen, is furnished with an elongated flexible or elastic valve, to the lower end of which is secured a thread which passes along both sides, and through a small eye in the end of the conducting-rod.

Claim.—The conducting-rod, when said rod is provided with an elongated flexible or elastic valve and conducting strings, when constructed as described and for the purpose set forth.

No. 31,299.—DE WITT CLINT and IVES LYND, of Poestenkill, N. Y.—*Improvement in Machines for Digging Potatoes.*—Patent dated February 5, 1861.—The scoop passes through the hills and ploughs them up, casting the earth and potatoes upon the screen, which has a reciprocating motion given it by means of a pitman attached to a crank, pulley, and gear-wheel on the shaft of the driving wheels of the machine. By means of the lever the screen can be adjusted at any angle, and the connecting pivot at *r* allows the screen to conform to the inequalities of the ground.

Claim.—The combination of the scoop A′, the adjustable reciprocating screen O, the above parts being applied to a mounted frame A, and all arranged for joint operation as and for the purpose set forth.

Also, the connecting of the rod P to the lever Q by means of the link or loop *r*, as shown, in combination with the screen O, and in the manner and for the purpose specified.

No. 31,300.—JOHN S. COCHRANE, of New York, N. Y.—*Improvement in Rolling Iron Shutters.*—Patent dated February 5, 1861.—This invention consists in bringing the several slats of the shutter together in such a way that they may turn over or roll in a direction towards the front, and thereby admit of the roller being placed in the hollow cast metal lintels over the doors and windows.

Claim.—Connecting together the slats A of the shutter by means of the hinges B, curved and bent and attached to the slats, so as to have the position relatively therewith, as shown, to operate as and for the purpose set forth.

No. 31,301.—ELEAZER COFFIN, of Indianapolis, Ind.—*Improved Dovetailing Machine.*—Patent dated February 5, 1861.—The cutters or chisels C C and E are operated by means of a crank actuating a connecting rod, lever, and sliding bar. The chisels C C are caused to expand or separate by means of slots working over pins to form the side cut of the dovetail. The point of the chisel E rests against the back of the chisels C C near their points, so that its edge descends to about the same depth, and takes out the piece left between chisels C C as they separate in descending. The under cutter O is operated by a cam, which actuates a sliding bar and pitman, to form the bottom of the dovetail, as the timber is fed up.

Claim.—The cutters C C E and O, operated in connexion with the slots and pins Z Z, head guide B, sliding bar A, connexion rod T, lever S, connexion rod R, crank Q, and the cam K, pitman X, and sliding bar L, or their equivalents, as set forth.

No. 31,302.—JESSE AMOR CRANDALL, of New York city, N. Y.—*Improved Rocking Horse.*—Patent dated February 5, 1861.—The shaft, to which the springs which sustain the horse are attached, has at each end a toothed plate which fits into another toothed plate on the inner side of each of the side pieces of the frame, and is secured to the frame by screws which, in connexion with the tooth plates, form an adjustable bearing for it. The under side of the horse is provided with a rod which is attached to a crank on the axle of the front wheel of the frame, and the rocking motion of the horse causes the crank to turn. The hinder axle is fastened to the frame by a king bolt, and can be rotated by the straps and stirrups.

Claim.—First, the adjusting device *a b c* in the described combination with the shaft B, springs C C, and seat or horse A, to regulate the tension of the springs, as set forth.

Second, the arrangement and combination of the springs C E, and seat or horse A, with the connecting rod K, and axle J of a velocipede, substantially as shown and described, whereby the springs will assist the crank I in passing its centers.

Third, having the stirrups M and their straps connected with the steering axle, substantially in the manner shown and described, so that the velocipede may be guided by the stirrups, all as set forth.

No. 31,303.—THOMAS S. DAVIS, of Jersey City, N. J.—*Improvement in Pistons and Piston Valves of Steam Engines.*—Patent dated February 5, 1861.—The ring has cut in its exterior a taper dovetail groove for the reception of a corresponding wedge, movable in a direction parallel with the piston rod, the ring being cut at the middle of the back of the groove to admit of its expansion, by means of which a steam-tight joint is formed in the simple ring, and two rings dispensed with.

Claim.—The construction of a piston valve or other piston with a single expanding ring A, having the head B and follower C fitted to its interior, and furnished with one or more dovetail wedges D, all substantially as described, whereby it is made to have the character of a solid block, but yet capable of being expanded in a lateral direction.

No. 31,304.—JULES DUVAL, of New Orleans, La.—*Improvement in Defecating Saccharine Liquids.*—Patent dated February 5, 1861.—This process consists, 1st, in the employment of liquid sulphurous acid for the purpose of conserving and decolorizing saccharine liquids; 2d, in the employment of saccharate of lime in excess, for the purpose of precipitating all those matters which are kept in solution, and capable of being precipitated; 3d, in filtering for the purpose of separating the precipitated matters from the liquid; 4th, in the employment of pure sulphate of alumina, for the purpose of decomposing the saccharate of lime and converting it into insoluble sulphate of lime, and making use of the decolorizing and clarifying properties of the gelatinous alumina, which latter precipitates simultaneously with the sulphate of lime; 5th, in filtering the liquid; 6th, in evaporating the defecated liquid in the usual manner.

Claim.—The process set forth, consisting in the successive application of the described substances to cane juice or other saccharine liquids, substantially in the manner and for the purpose specified.

No. 31,305.—SOLOMON DWIGHT, of Byron, Ill.—*Improvement in Cultivators.*—Patent dated February 5, 1861.—The tongue and main frame are formed of one elastic beam which is bifurcated, the arms being shaped around the triangular block so as to form the frame of the machine; strap C retains the arm firmly to the shaping block, and the cross-brace H is designed to strengthen the frame.

Claim.—The arrangement of the main frame A and tongue B of a single piece of timber, in combination with the retaining strap C, shaping block D, cross-brace H, and standards E, the whole arranged and operating as specified and for the purpose set forth.

No. 31,306.—OTTO EBERHARDT, of Brooklyn, N. Y.—*Improvement in Flowerpots.*—Patent dated February 5, 1861.—On the bottom of the flowerpot is formed a projecting flange with notches cut in it, and on the saucer are formed corresponding knobs or hooks, so that the saucer may be readily attached to or detached from the pot.

Claim.—The flange *a* on the pot, with its notches *b b b*, in combination with the corresponding knobs or projections *c c c* on the saucer, relatively arranged and operating as and for the purposes set forth.

No. 31,307.—JOSEPH FIELEMEYER, of Philadelphia, Pa.—*Improvement in Apparatus for Cutting Ice.*—Patent dated February 5, 1861.—This invention consists in the employment of a weight having a series of sharp-edged chisels, the said weight being arranged to move in grooves increasing in width at their lower ends, so that the said chisels may cut square blocks from a floating mass of ice without interfering with or being obstructed by the continuous movement of the said mass.

Claim.—The employment for cutting ice of a weight E with chisels *c c*, when the said weight is arranged to be moved in vertical grooves *a a*, increasing in width at their lower ends, as set forth for the purpose specified.

No. 31,308.—CHARLES FLEMING, of Ypsilanti, Mich.—*Improved Instrument for Measuring Lumber.*—Patent dated February 5, 1861.—The index shafts are connected by gearing to the perambulator so as to record tens, hundreds, and thousands, as the perambulating wheel, passes across the boards. The spring index press is upon the face of the perambulating wheel, but can be removed, and thus permit the substitution of other wheels of different diameter.

Claim.—The combination with the index shafts A B C, connecting gearing and perambulating wheel P of the spring, index Q pivoted at S, retained in position by the pivot X, and adapted to press upon face of the wheel P, the said parts being constructed and operating in the manner and for the purposes shown and described.

No. 31,309.—F. M. GIBSON, of Chelsea, Mass.—*Improvement in the Joints of Felloes in Carriage Wheels.*—Patent dated February 5, 1861.—The object of this invention is to prevent the breaking or bending down of the wheel felloe where its ends are jointed.

Claim.—The improved felloe joint supporter, as constructed, with the tongue or projection *b*, arranged with respect to the socket-piece D, substantially as specified.

Also, the above specified arrangement and application of the felloe supporter D, its tongue *b*, a spoke C', the felloe A, its joint *c*, and the tire B, the whole being to operate in manner and for the objects as specified.

No. 31,310.—SAM'L D. GOODALE, of Cincinnati, O.—*Improvement in Stereoscopes.*—Patent dated February 5, 1861.—A spiral spring attached at one end to the scene holder and at the other end to a collar upon the shaft H, tends to incline each scene forward in the direction of the rotation. A detent projects from the interior of the case and acts to detain each scene in succession at the proper angle and focal distance, until, being liberated by the rotation of the shaft, it suddenly disappears from the field of view and exposes the succeeding scene.

Claim.—First, the arrangement of shaft H, wheels I I, and collar M, scene holder J K K', spring L, and detent N, or their equivalents, the whole operating together to instantaneously shift the scenes, substantially as set forth.

Second, the arrangement of hinged lens holder E, diffusing glass F, and reflector G, adapted to be extended for use or compactly folded within the case, in the manner represented.

No. 31,311.—HENRY B. GOODYEAR, of New Haven, Conn.—*Improved Method of Relieving Geographical Outlines on Moulding Elastic Globes.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The method described of constructing an India-rubber or gutta-percha ball of the character specified, by first inscribing and indenting, as set forth, the several characters or divisions to represent a celestial or terrestrial globe in a metallic or other suitable core, and afterward forming a matrix from the same wherein and whereby to mould the ball, as described.

Also the method described of printing or lettering the interior of the matrix used to form the ball with type of convex configuration, or set in conformity with the concave configuration of the matrix, essentially as set forth.

Also the method of constructing a hollow India-rubber or gutta-percha ball with its exterior surface marked or divided to represent a terrestrial or celestial globe, having its land or sea surfaces, objects or divisions, appearing and standing in relief, but flush with the general surface, and whereby the rotundity of the ball is preserved, substantially as described and set forth.

No. 31,312.—THOMAS Q. HALL, of Fairfield, Iowa.—*Improved Extension Table.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The arrangement of the folding rails F G H of an extension table, with the legs of said table, when constructed, arranged, and operated substantially in the manner and for the purpose described.

Also, in combination with the extension rails described, the extension leaves provided with oblique cleats, for the purpose of making a braced rule joint, and thus bracing the extended table against lateral motion, substantially as described.

No. 31,313.—J. A. HAMMER and J. P. GORDON, of Lisbon, Iowa.—*Improvement in Mole Ploughs.*—Patent dated February 5, 1861.—By means of flanges on both the coulter and blade and the adjusting screw, the heel or point of the mole can be raised or depressed. The adjusting lever, and guide-pin, and the friction-roller, against which the upper part of the coulter bears, admit of a free vertical motion.

Claim.—The arrangement of the coulter D and blade G, both being hinged to the mole by means of pivots *b* and *c*, and connected at the top by flanges *d* and *f*, and screw *e*, as described, in combination with the lever E and guide-pin K, for the purpose of a double adjustment, as set forth.

No. 31,314.—THOMAS HANSBROW, of Sacramento, Cal.—*Improvement in Pumps.*—Patent dated February 5, 1861.—The lever communicates an oscillating movement to the piece D, and arm *b*, the latter being connected by a pivot to the sliding plate, which is connected by means of an angular bent arm to the piston, thus giving it a reciprocating motion. The water enters a chamber over the cylinder through the suction tube, on each side of which, and placed on inclined seats, are the the entrance valves. The water is forced into the lower part of the air chamber through horizontal valves. Owing to the inclination of the entrance valve seat, sand or other substances will not lodge and impede the action of the pump.

Claim.—The arrangement of the inclined valves *f*, seat *g*, and suction pipe H, above and with the cylinder A, and piston G, in combination with the sliding plate F, and oscillating armed lever, receiving piece D, in the manner and for the purposes shown and described.

No. 31,315.—CHARLES HARDY, of Biddeford, Me.—*Improvement in Machinery for Grinding the Card-teeth of Carding Cylinders.*—Patent dated February 5, 1861.—E is a hollow tubular shaft having a slot lengthwise through its side, and has within it a revolving screw shaft provided with a helical groove, so constructed that, by an iron follower or stride traversing in said groove and connected to the grinder D by a stud passing through said slot, the grinder, by the rotary motion of the screw shaft, is made to vibrate or traverse the whole length of the slot, the grinder being caused to traverse a space equal to its entire width beyond and outside of the range of the card teeth at each end of the cylinder.

Claim.—Extending and adjusting the shafts G and E, in the manner represented, whereby the grinder D is caused to traverse and retraverse all of the teeth of the cards with its entire breadth, substantially as specified.

No. 31,316.—GOODRICH HOLLAND, of Willimantic, Conn.—*Improvement in Machines for Sorting Silk and other Thread.*—Patent dated February 5, 1861.—The thread passes from a bobbin placed below the shaft and between the arms, and is wound on one of two bobbins according to its fineness or coarseness. The thread passes through a guide which, by means of a cam, has a transverse motion along the face of the bobbins. The arms are attached to a rock-shaft which has an oscillating motion, and is prevented from moving too far in either direction by the arm J, which strikes projections attached to the frame of the machine. When the thread is fine it passes easily through the bars, but when coarse there is enough friction to tilt the shaft up, and thus change the direction of the thread.

Claim.—The employment, in silk-sizing machines, of oscillating sizing arms I I, constructed and operating substantially as shown and described.

Also the combination of said oscillating arms I I with shaft H and arm J, substantially in the manner shown and described.

No. 31,317.—MARTIN A. HOWELL, jr., of Ottawa, Ill.—*Improvement in Mole Ploughs.*—Patent dated February 5, 1861.—The movable sickle, rasp, or saw is provided with a lug which moves in a vertical slot on the side of the coulter, so that the rasp can be moved up and down by a lever. To the front of the beam is attached a segmental wheel rotated partially by a screw, and the draught rope is attached to the shaft of this wheel. The jointed shoe, which can be raised or lowered by the lever, is for the purpose of giving an upward inclination to the mole, so that it can be drawn out of the ground when desired.

Claim.—First, in combination with a drain or mole plough, a movable sickle, rasp, or saw, inserted in or annexed to a coulter thereof, for the purpose set forth and substantially as described.

Second, in combination with a machine for underground draining the application of a segmental wheel acted upon by a screw, both of which are fixed horizontally upon the beam of the machine for the purpose of giving a curvilinear motion to the machine, in contradistinction to the great power applied by a capstan.

Third, in combination with a mole plough, a jointed shoe, hinged and swung to the lower side of the beam thereof, and a lever by which to control its motion, for the purpose set forth and substantially as described.

No. 31,318.—GEORGE W. HUBBARD, of New York, N. Y.—*Improvement in Enema Syringes.*—Patent dated February 5, 1861.—Two cylinders are placed one within the other. The inner cylinder is provided with a piston resting upon a spiral spring which forces the piston up after it has been pressed down by the hand; an orifice at the bottom of this cylinder, closed by a ball valve, affords a communication with the vessel in which the liquid is placed. The outer cylinder, which forms the air chamber, is connected by an opening and flexible tube with the nozzle, and it is also connected with the interior cylinder at its lower part by a passage provided with a valve.

Claim.—A syringe constructed in the particular manner shown and described, so as to operate as set forth.

No. 31,319.—CHARLES HUGHES, of New Orleans, La.—*Improvement in Hoop Locks.*—Patent dated February 5, 1861.—The object of this invention is to obviate the necessity of turning the button, and consists in forming the button with a long end projecting below the connecting bar.

Claim.—A hook-lock button, made in the peculiar manner shown and described.

No. 31,320.—FRANK G. JOHNSON, of Brooklyn, N. Y.—*Improvement in Locks.*—Patent dated February 5, 1861.—To one of the studs is attached an arm operating the bolt of the lock. The key is provided with studs fitting into holes in the front piece which press against the cylindrical tumblers and force them down so as to permit their rotation, a groove in each of the tumblers allowing them to pass the guard-piece when they have been forced down.

Claim.—First, the open cylinder, Fig. 4, comprised of the two circular head pieces A and B, and the studs *a a a*, set in a circle, and all working on the central post C, substantially in the manner and for the purpose described.

Second, the series of cylindrical tumblers *c c c*, arranged in a circular position on their studs *a a a*, in combination with the spiral springs *o o o*, so as to allow the said cylindrical tumblers to be depressed by the key and returned by the springs, substantially in the manner and for the purposes set forth.

Third, the combination together of the cylinder, Fig. 4, and the series of cylindrical tumblers *c c c*, and spiral spring *o o o*, acting in relation and combined with the series of guards *m m m*, or their equivalents, in the manner and for the purpose described.

Fourth, the general arrangement together of the cylinder, Fig. 4, tumblers *c c c*, arranged in a circular position, and spiral springs *o o o*, combined together and with the bolt K, and its arm J, in such a manner that, by placing the whole on the central post C, the entire combination of these parts can be worked or rotated freely and simultaneously on the central post C, to lock and unlock the lock by the mere action or use of the key, substantially in the manner as described.

No. 31,321.—JOSEPH JORDAN, jr., of East Hartford, Conn.—*Improvement in Mills for Grinding Paper Pulp.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The arrangement of the knives of either grinder, they being disposed in rows, series, or sections, extending transversely around the grinder, and having their knives so further arranged that those of one section or series shall be so generally or wholly out of range with those of the next series that each channel between any two next adjacent knives of one series may, at its end next adjacent to the other series, open into two or more of the channels of such series.

Also, the above-described improved mode of arranging the knives of both grinders, whereby those of the male grinder may be employed to advantage, in manner as described, to sharpen the knives of the female grinder, such arrangement of the knives being exhibited in Figs. 4 and 6; and when the knives of the male grinder are arranged into two or more series, each of which shall extend transversely around the grinder, as described, the further arrangement of the knives in such manner that those of each series from the smaller to the larger end of the grinder shall be at less distances apart than those of each series preceding it, the same being substantially as exhibited in Fig. 6, and as described.

No. 31,322.—NEWTON S. MANROSS, of Forestville, Conn.—*Improved Apparatus for Lighting and Extinguishing Gas Lights.*—Patent dated February 5, 1861.—The hydrogen burner is placed close to the gas burner, so that when the hydrogen is ignited by the platinum the gas is lighted. The valves are mercurial, and are operated by rods, actuated by levers provided with projections fitting into notches on a cam. As the cam revolves, the levers are depressed and the valves opened. A revolving dial is attached to the face of the clock, provided with pointers and trippers; the trippers are made to lift a pawl at any fixed time, allowing the wheel S and cam I to revolve, and the gas to be lighted or extinguished. The box enclosing the platinum is opened and closed by means of levers attached to the rod operating the hydrogen valve.

Claim.—First, the employment, for the purpose of lighting gas at any desired hour, of a hydrogen and platinum kindling apparatus, (Dobereiner's lamp,) and a clock movement, combined and operating substantially as described.

Second, so constructing and applying the cam T or its equivalent, and so applying the mechanism through which it acts on the hydrogen valve and illuminating gas valve, that the hydrogen valve, after the ignition of the illuminating gas has been effected, will be closed, and the illuminating gas valve only left open, substantially as described.

Third, providing for the protection of the platinum by means of an automatically opening and closing box K, substantially as described.

Fourth, the rotating dial W', with its two adjustable pointers and two attached trippers, applied and operating substantially as described.

No. 31,323.—A. Z. MCBRIDE, of Hamahatchee, Ga.—*Improvement in Cotton Presses.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of the screws and tap A with its follow block 10 and 11, when constructed and operated substantially as described.

No. 31,324.—WILLIAM MURKLAND, of Lowell, Mass.—*Improvement in Looms.*—Patent dated February 5, 1861.—This invention consists in providing a series of reserve shuttle-boxes, to contain the requisite number of shuttles that may be desired, so arranged that, as long as either of the shuttles contained in them is not required in the fabric, they will all remain without any movement or change of position, and when one of them is so required, it is brought into connexion with the active parts of the loom and worked as long as necessary, and afterwards put back into the reserve series, and another taken up.

Claim.—First, the combination of the reserve shuttle-boxes with the active shuttle-boxes, by attaching and detaching the several reserve shuttle-boxes to and from the active shuttle-boxes, under a construction and mode of operation substantially as set forth.

Second, the adjustment of the reserve shuttle-boxes with the active shuttle-boxes, so as to allow the use of one or more of the active series, substantially as described.

Third, the construction and use of the annular disk for the purpose of keeping the shuttle in place, and for passing the ends of the yarns around the axis of the polygonal box frame.

Fourth, the manner of holding the boxes of the polygonal frame in their position, by means of a segment of a circle or its equivalent.

No. 31,325.—FRANÇOIS NIVELLE, of Paris, France.—*Improvement in Sewing Machines.*—Patent dated February 5, 1861.—The rocker is provided with a projection fitting into a slotted vertical arm extending down from the shuttle, which moves backward and forward on its guide. This rocker receives an oscillating motion from the horizontal lever N, which lever is itself operated by the vertical lever O, provided with a pin which enters a groove on the cam F. The needle shaft is supported in bearings under the plate of the machine, but has a free motion longitudinally; it is operated by the levers and the cams upon the driving shaft, so

as to have an oscillating and reciprocating motion. By means of these, in connexion with the perforating needle, operated as usual, either the shuttle stitch or double-looped stitch may be produced.

Claim.—The arrangement of the shuttle-operating levers O N and rocker M, and of the oscillating and reciprocating under needle shaft P, and its operating lever Q, rod R, and connexion *u s* in combination with cams on a driving shaft C, arranged above the upper frame of the machine, substantially as described.

No. 31,326.—JOHN B. PEYTON, of Raymond, Miss.—*Improvement in Flues for Cotton Gins.*—Patent dated February 5, 1861.—This invention consists in a method of freeing cotton from motes, dust, and other impurities which are left in it after the ginning operation, by means of a metallic flue-box, which is attached to the flue space of an ordinary cotton gin; said flue-box having a perforated bottom, and a dust sack suspended under it, and distended by transverse battens upon the plate.

Claim.—Constructing the flue A with a sheet metal bottom, which has greater spaces between the perforations than the length of the fibres, as and for the purposes shown and described.

No. 31,327.—JACOB REESE, of Pittsburg, Pa.—*Improvement in the Construction of the Fire Chambers and in Operating the Fires of Reverberatory Furnaces.*—Patent dated February 5, 1861.—The claim and engraving will explaim the nature of this invention.

Claim.—First, constructing the fire chamber of reverberatory furnaces for puddling, boiling, or reheating iron, in which coal is used as fuel, so as to form at its base a contracted receptacle for the accumulation of the melted cinder below the point where the blast of air is admitted, in combination with a close air-tight fire-chamber bottom, for the purpose of freeing the fuel of its incombustible particles by keeping the cinder in a melted state so long as it remains in the fire chamber, and thus preventing the formation of clinker, as described.

Second, fluxing the clinker in the fire chamber of a puddling, boiling, or reheating furnace, constructed as above described, by means of the introduction with the fuel into the fire chamber of oxyd of iron or other suitable flux, for the purpose of keeping the clinker in a state of fusion so long as it remains in the fire-chamber bottom, so as to enable it to run off spontaneously as it accumulates, in the manner hereinbefore described.

Third, in the fire chamber of puddling, boiling, or reheating furnaces, constructed as above described, introducing the blast near the surface of the melted cinder so as to heat the blast before it ascends through the mass of fuel in the fire chamber, and thus increase the intensity of the combustion and consume the smoke, as set forth.

No. 31,328.—IRA REYNOLDS, of Bellefontaine, O.—*Improvement in Straw Cutters.*—Patent dated February 5, 1861.—The crank is operated by a pinion on the driving wheel, and is placed between the arm and the cutter for the purpose of allowing a direct action upon the cutter with a crank, and so that the wrist of the crank, which is provided with a friction roller, may act on the rock-shaft K in connexion with the pawl T and cog J. The adjustable plate is provided with holes in which can be inserted the rod I, which passes through the bent extremities of the cutter, in this way allowing the cutter to be easily adjusted at any angle.

Claim.—First, the arrangement of the crank between the arm *f* and blade C with the rock-shaft K and feed motion, as and for the purposes described.

Second, constructing the journal box E in such a manner as to form the box for the lower roller, and the sliding or slotted box for the upper feed roller, with slot for spring and fastening for the feed box, as seen and represented in the accompanying drawings and specifications.

Third, the combination of the adjustable plate D and the rod I, when constructed and operating as and for the purposes described.

No. 31,329.—FREDERICK E. SCHMIDT, of New York, N. Y.—*Improvement in Steam Generators.*—Patent dated February 5, 1861.—This invention consists of an apparatus for generating steam or vapor from a fluid, or from a fluid and gases combined, by means of an arrangement of boilers or generators, and tanks provided with pipes and cocks in such a manner, as to be able to feed the generators when necessary or mix the steam or vapors with air or gases under all pressures in the generator.

Claim.—The arrangement and combination of the generators, tank, and reservoir, substantially as described, for the purpose of combining with the steam or vapor generated in the generators any other fluid or gases, when said combined vapors and gases exert a continual power upon a piston or its equivalent.

No. 31,330.—MOSES SEWARD, of New Haven, Conn.—*Improved Collar for Ornamental Carriage Work.*—Patent dated February 5, 1861.—The collar is formed by upsetting a solid rod of iron so as to raise the collar from the rod itself without welding, after which it may be formed and planished in any required shape.

Claim.—As an article of manufacture, an upset planished collar for ornamental carriage work, formed without welding or turning.

No. 31,331.—THOMAS SHEEHAN, of Dunkirk, N. Y., assignor to himself, C. DE WITT SMITH, and CHARLES B. MOSS, Washington, D. C.—*Improvement in the manufacture of Files and Rasps.*—Patent dated February 5, 1861.—This invention consists in constructing files of wrought iron, and then converting them into a sound and tenacious steel to a certain depth, by coating them with the cementing paste, (described in the patent previously granted to Sheehan,) then packing them with leather and ground bones in a wrought-iron box submitted to the action of heat. The files are then, while hot, immersed in a bath of a strong solution of salt, then in some water, and washed.

Claim.—The non-frangible files and rasps constructed and made as described and specified, whose hardness, working qualities, and durability are equal to those of cast-steel files and rasps.

No. 31,332.—THOMAS SLAIGHT, of Newark, N. Y.—*Improved Lock for Railway Cars.*—Patent dated February 5, 1861.—The bolt which moves in guides upon the plate A is made to fasten a hasp provided with a slot, thus allowing it to pass over the guides, and when shoved into the lock presses against one arm of the dog F, and forces the other arm *g* into a corresponding recess on the bolt, thus retaining it in position. The sliding plate bears against the lip *f* upon the dog, and is held in that position by a projection upon the tumbler; when the tumbler is moved a projection upon the sliding plate coming opposite a recess in the tumbler allows the spring to force back the sliding plate so as to remove its end from the lips upon the dog, thus freeing the projection *g* from the bolt C.

Claim.—The bolt C, dog F, and side plate D, the latter being provided with the arm *c*, and all arranged to operate as and for the purpose set forth.

No. 31,333.—JOHN JOSEPH CHARLES SMITH, of Philadelphia, Pa.—*Improvement in Machine for Cutting Type.*—Patent dated February 5, 1861.—This invention consists in the arrangement of a reciprocating cutter, with an automatically moving griping jaw and with an adjustable gauge, in such a manner that the gauge can be set for types of different thickness, while the jaw adjusts to the varying width or size of different types, and is so arranged as to be loosened at regular intervals, so that the type cut off by one stroke of the cutter can be deposited in a receptacle.

Claim.—The arrangement of the adjustable gauge F and automatic jaw G, in combination with the reciprocating cutter C, constructed and operating substantially in the manner and for the purpose specified.

No. 31,334.—JOSIAH M. SMITH, of Somers, N. Y.—*Improvement in Sewing Machines.*—Patent dated February 5, 1861.—The hook is attached by an arm to the irregular plate P, moving under the plate N on the axle *g*. This irregular plate is provided with a roller *i* and projections *j* and *k*, and is so arranged as to have an oscillatory movement corresponding with the movement of the perforating and horizontal needles. As the arm moves, the inclined projection prevents the twisting of the loop of the perforating needle, and after that has ascended the hook catches in the loop of the under thread and opens it, so that the perforating needle when it again descends can enter fairly and thus insure the formation of a double locked stitch. The presser is made to operate by a lever, so that as the needle descends a projection *x* on the short arm may catch on the hook of the lever moving the presser and give it a percussive and at the same time a rubbing motion backward.

Claim.—First, the hook M, constructed with an inclined projection *l* and notch *m*, substantially as described, and applied to operate in manner substantially as set forth, in combination with the two needles *n* and L, for the two purposes specified.

Second, the presser W, applied to operate upon the cloth independently of the feed mechanism, with a percussive and rubbing action, substantially as and for the purpose described.

No. 31,335.—WILLIAM SMITH, of Philadelphia, Pa.—*Improvement in the Valves of Steam Engines.*—Patent dated February 5, 1861.—The lever I and rock arm H are provided with toes which act against each other, so that the lever I can be raised to operate the valves and cut off the steam at any part of the stroke, the toes being kept in contact by a spring bearing upon lever I.

Claim.—The arrangement and combination of the rock arm H, lever I, sliding plate S, spring L, lever R, and piston valves B B', substantially as described.

No. 31,336.—FRANCIS W. STAFFORD, of New York, N. Y.—*Improved Shade Fixtures.*—Patefit dated February 5, 1861.—The adjustable strap encompasses the cord, and can be tightened so as to press the cord upon the pulley and make it revolve, thus dispensing with the use of the lower tightening pulley, the cord pressing in such a manner that by pulling it the pulley will revolve.

Claim.—The employment or use of the adjustable strap C, in connexion with the grooved pulley B and cord F, the stap being applied to the pulley to act upon the cord, substantially as and for the purpose set forth.

No. 31,337.—PETER PAUL STEPHAN, of Newark, N. J.—*Improved Lock Attachment.*—Patent dated February 5, 1861.—This invention consists in the employment or use of a novel safety attachment applied to the lock in such a way as to completely fill up the keyhole and prevent the insertion therein of either picks or keys, the attachment being secured in the keyhole by a fastening or supplemental attachment.

Claim.—The spindle C, provided with the bit *b* and the lug or projection *d*, in connexion with the key D and supplemental lock formed by the arbor F, rod *k*, with springs *l*, and case E, substantially as described.

Also the spindle C, with its bit *b* and lug or projection *d*, and key D, when used in connexion with any suitable supplemental fastening or lock attachment to secure the key D in the lug or projection *d* and keyhole *g*, of lock A, for the purpose specified.

No. 31,338.—J. V. STEVENS, of Pomeroy, Ohio.—*Improved Churn.*—Patent dated February 5, 1861.—The dash is made to fit closely to the body of the churn and is provided with an aperture closed by a valve. Upon the downward motion of the lever, cream is forced up through the perforations in the dash and valve, and upon the upward motion of the lever *c*, the cream passes freely down through the aperture and is again forced up through the perforations.

Claim.—The perforated valve dash, to be worked with or without a lever, substantially as set forth in the accompanying drawings and specification.

No. 31,339.—J. B. TINKER, of Plymouth, N. Y.—*Improvement in Harvesters.*—Patent dated February 5, 1861.—The shaft is provided with pinions, so that the motion communicated by the segment operated by a lever near the driver to one rack bar will be communicated to the other. The grooved shaft N and the feathered pinion operate the sickle with an oscillating motion.

Claim.—The combination of the toothed segment G, rack bars E E, shaft F, pinions *c c*, bent brace rod J, guides K K, grooved crank-shaft N, and feathered pinion *g*, the said parts being constructed and arranged in connexion with the rigid frame A *a b*, wheels C, finger bar I, and sickle M, in the manner and for the purposes shown and described.

No. 31,340.—CHARLES TRIBBY, of Winchester, Va.—*Improvement in Watchmakers' Lathes.*—Patent dated February 5, 1861.—The object of this invention is to facilitate the turning of stones used in jewelling watches, and consists in fastening the stone on the point of the spindle by means of cement, so that it can be turned and fitted to the hole in the plate of the watch without loosening and refastening it, as is usual, for the purpose of measuring, the spindle being taken out with the stone whenever it is desirable to hold it up to the hole in the plate.

Claim.—The arrangement of the movable bed H, in combination with the mandrel E, drilled on one end and provided with the hollow centre *b* on the other end, and with the double-centred spindle F, all constructed and operating in the manner and for the purpose described.

No. 31,341.—LEVI S. TYLER, of Linesville, Pa.—*Improvement in Rotary Harrows.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—First, connecting the harrow wheels B B and B′ B′ to the frames A A′ by means of the spindle bolts E, swivel bows F, and axis bolts G, as and for the purposes set forth.

Second, the described arrangement of parts whereby the harrow wheels B B are connected to the frame A, and the harrow wheels B′ B′ are connected to the frame A′, and the said frames are connected together by the hinged bars C C, for the purpose set forth.

No. 31,342.—JAMES S. UPTON, of Battle Creek, Mich.—*Improvement in Horse-Powers.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The arrangement of the wheels K and L upon the shaft J, with reference to the wheels D and I, so that more power and less speed, or the converse, may be used, at the will of the operator, substantially as specified.

No. 31,343.—FREDERICK WALTON, of Haughton Dale Denton, near Manchester, Eng.—*Improvement in Apparatus for the Manufacture of Varnish.*—Patented in England January 27, 1860.—Patent dated February 5, 1861.—Three cylindrical vessels are arranged one above the other, into the upper one of which is pumped linseed oil, mixed with a proper proportion of acetate of lead. The oil falls in a finely divided state through a grating in the bottom of the vessel into the lower cistern. The middle cistern has two sides of glass and two of perforated zinc, through which a current of air is forced from the pipe E, in close contact with the shower of oil. Underneath the lower vessel is a steam chamber for heating the oil to any desired temperature. A pipe from the lower cistern conducts the oil to the oil-pump, by

which it is passed again through the machine. In the cover of the upper cylinder is a tube and piston, and when the pressure is too great the piston is forced up, and by means of a connecting rod closes a cut-off in the outlet pipe of the cistern.

Claim.—The machine substantially as represented in Figs. 1, 2, and 3, and as above described.

No. 31,344.—HENRY T. WATKINS, of Anderson, Ind.—*Improvement in Cider-Mills.*—Patent dated February 5, 1861.—This invention consists in the arrangement of a spiked cylinder and concave in connexion with a pair of smooth rollers moving in opposite directions, the whole enclosed by a door or cover hinged at the bottom.

Claim.—The combination and arrangement of the several parts, when constructed and arranged substantially as represented, for the purpose set forth.

No. 31,345.—THOMAS S. WHITENACH, of Easton, Pa.—*Improvement in Rakes for Harresters.*—Patent dated February 5, 1861.—To a vertical shaft rotated by gearing in the body of the machine there is secured a head to which the arms I are pivoted, so as to have a vertical motion. The sides in which the arms rest are turned down at their lower ends so as to form a bearing against the head, thus preventing the arms from falling too far down. The rollers are arranged so that one is vertical, and each of the others more inclined and at a higher elevation, so that the arms on passing over the frame are elevated above the driver's seat. The sockets are provided with two holes, one of which is curved, so that the beater or rake can be adjusted parallel with the plate B. By means of the lever operated by the driver the arms can be raised above the platform to any desired height.

Claim.—First, the employment or use of the slides G, when applied to the arms F, substantially as shown, for the adjustment of the same as set forth.

Second, the rollers I I′ I″, when applied to the main frame A, and used in connexion with the arms F, to operate as and for the purpose set forth.

Third, attaching the beaters L and rake K to the arms F by means of the sockets J, constructed and arranged as shown, to admit of the adjustment of the beaters and rake, specifically as set forth.

Fourth, in combination with the arms F, the lever N, attached to the main frame A, and provided with the curved bar *l*, placed in such relation with the arms as to operate as and for the purpose set forth.

No. 31,346.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improved Packing for Stuffing-Boxes.*—Patent dated February 5, 1861.—This invention consists of a compound packing brick, composed of a fibrous material, (such, for example, as unspun hemp,) and a lubricating material, (such as tallow,) compressed into the form most suitable for use in the stuffing-box.

Claim.—A compound packing brick, substantially such as described, as a new article of manufacture.

No. 31,347.—WILLIAM H. BEACH, of Chicago, Ill., assignor to J. S. BEACH, of Ballston Spa, N. Y.—*Improved Machine for Swaging Sheet Metal.*—Patent dated February 5, 1861.—This machine is designed for swaging and pressing sheet metal for roofing. The dies are so constructed as to form semi-cylindrical ridges at each side of the plate, while the portion between the ridges is pressed flat and smooth, and while under pressure the plates are perforated with holes for nails, and the holes countersunk.

Claim.—The pressure-bar or plunger C, provided with the bars or female dies D D, in connexion with the stationary bedpiece *b* and movable male dies H H, the bar or plunger C, and dies H H, being operated by the screws F I I, or their equivalents, and all arranged as and for the purpose set forth.

Also, in combination with the bar or plunger C, bedpiece *b*, and the dies D D H H, the punches and countersinks G, arranged essentially as and for the purpose set forth.

No. 31,348.—P. J. CLARK, of West Meriden, Conn. assignor of S. D. CLARK, of same place.—*Improvement in Skate-Fastenings.*—Patent dated February 5, 1861.—The clamps, which secure the sole of the boot or shoe to the skate, are hinged to sliding blocks moving in suitable grooves in the plate B, the blocks being moved by means of a right and left handed screw, which is prevented from moving longitudinally by a collar which turns within a recess in the hanger, so that the clamps can be drawn and fastened to the edge of the sole as tightly as may be required.

Claim.—In combination with the plate A and slides E E, and their pivoted and removable fastenings F F, as described, the right and left hand screw G, and restraining nut *d*, for drawing said fastening up tightly to the boot or shoe, and for drawing up the clamps and instep strap together, the whole being arranged under the ball of the foot, substantially in the manner and for the purpose set forth and explained.

No. 31,349.—PHYLANDER DANIELS, of LeRoy, N. Y., assignor to Himself and S. H. BARNES, of New York city.—*Improvement in Tanning Leather.*—Patent dated February 5, 1861.—The claim will explain the nature of this invention.

Claim.—In tanning leather the use of tormentilla and nutgalls, in connexion with cutch or terra japonica, in about the proportions set forth.

Also, in tanning leather with the above-designated substances the within-described method or process, to wit: the application, first, of a solution of cutch, tormentilla, and nutgalls in the proportions and strength specified, the subsequent addition of the salts specified, and the ultimate strengthening of the liquor to the proper degree to complete the tanning by the addition of a strong solution of cutch or terra japonica alone.

No. 31,350.—GEORGE J. HILL, of Buffalo, N. Y., assignor to SANFORD, HARROUN & Co., of same place.—*Improvement in Machine for Numbering Railroad Tickets.*—Patent dated February 5, 1861.—A series of wheels are arranged side by side, each wheel having ten types with digits marked upon them, and arranged successively around its circumference. By means of a pawl at each successive stroke of the platen one wheel is made to revolve one number until it has completed its revolution, when the next wheel is made to move one digit, and so on until 99 is printed. When this number is reached the third or left-hand wheel moves one number, and then the hundreds are successively printed as high as 999.

Claim.—First, imparting to the pawl S a lateral movement to and fro by means of mechanism, substantially as described, so that the pawl will strike and move the first, second, and third type-wheels, as required, for printing numbers consecutively from 1 upward to 999.

Second, hinging the type-teeth 1, 2, 3, 4, &c., to the third type-wheel, for the purposes and substantially as set forth.

Third, a recess formed in the annular rim *h* and spring *j*, in connexion therewith, in combination with the spring J and hinged type of the third type-wheel, for the purposes and substantially as described.

No. 31,351.—ALBERT H. HOOK, of New York, N. Y., assignor to the GROVER & BAKER SEWING-MACHINE COMPANY, of same place.—*Improvement in Sewing-Machines.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of two washers, concave at the centre and rounded off at the outer edge, with a centre pin and any suitable means to give these washers a pressure, causing the thread to be pinched between said washers, arranged substantially as and for the purpose specified.

No. 31,352.—LEMUEL P. JENKS, of Boston, Mass., assignor to WILLIAM S. MURRAY, of New York, N. Y.—*Improvement in Filters.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—In cases of a conoidal form, as described, the combination and arrangement of one or more bunches of fibres placed in a perforated groove or grooves, and alternately compressed or expanded, for the purpose of filtrating water or other liquids, all as set forth.

No. 31,353.—JOSEE JOHNSON, of New York, N. Y., assignor to Himself and JOHN WARD, jr., of Brooklyn, N. Y.—*Improved Folding Table.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination and arrangement of the top A, centre piece B, hook buttons E, or other suitable fastenings, and leg-pieces C, hinged together so that they may be readily folded into a small compass, substantially in the manner and for the purpose described.

No. 31,354.—STEPHEN JOUNSON, of Cold Springs, N. Y., assignor to Himself and LYMAN E. DAMON, of Napoli, N. Y.—*Improvement in Seed Planters.*—Patent dated February 5, 1861.—The cups upon the disk pick up a certain number of seeds from the cylinder, and as the disk revolves the caps are emptied into the hopper, and thence the seed runs into the seed tube.

Claim.—The described arrangement of the cups G, disk F, and hopper H, within the cylinder C, the same being arranged and used in connexion with the plough K and coverer J, which are supported by the hinged lever bar L, with flexible tube I, the whole arranged and operating as set forth.

No. 31,355.—M. C. LONGACRE, of Cleveland, Ohio, assignor to Himself and R. R. HERRICK, of same place.—*Improved Churn.*—Patent dated February 5, 1861.—The covers and dashers of the churn are fixed, whilst, by means of gearing, the vessel containing the cream is made to rotate. The dashers are also capable of adjustment, and by devices applied to the base can be moved to and from the centre of the churn, and thus control the reaction of the blades of the dashers upon the fluid.

Claim.—Rotating the body of the churn in a vertical position by means of the disk C, or its equivalent, when connected with the stationary dashers L, arranged as described, for the purpose of adjusting the same both vertically and horizontally as specified.

No. 31,356.—JOHN L. ROWE, of New York, assignor to MANNING MERRILL, of New York, N. Y., and THOMAS HOLMES, of Brooklyn, N. Y.—*Improvement in Nozing for Locks.*—Patent dated February 5, 1861.—This invention consists in placing in the nozing of a lock a piece which is usually flush with the edge of the opening and retained by a spring, but can be moved back when the latch strikes against it.

Claim.—The employment of a yielding or sliding segment in the nozing or staple for locks and latches to take the latch, in the manner and for the purposes substantially as specified.

No. 31,357.—COLEMAN SELLERS, assignor to Himself and G. BURNHAM, Philadelphia, Pa.—*Improvement in Exhibiting Stereoscopic Pictures of Moving Objects.*—Patent dated February 5, 1861.—The pictures representing objects in different positions are made to revolve in a plane coincident with the line of vision, and are seen through slits in the surface of the revolving cylinder as it passes under the lenses of the stereoscope. The slits in the cylinder are so narrow that the whole of the picture is not seen at once, but only by degrees as the cylinder revolves and the picture approaches and recedes in the line of vision, thus giving to the various parts an appearance of motion. By this device, the revolving wheels of machinery and various motions of the human body can be presented.

Claim.—Combining with the stereoscope a series of pictures arranged in succession, as described, when said pictures revolve on an axis at right angles or nearly so to the line of vision, the whole being constructed and operated substantially in the manner and for the purpose set forth.

No. 31,358.—EDGAR M. STEVENS, of Boston, Mass., assignor to Himself and LEVI L. TOWER, of same place.—*Improvement in Machines for Winding Thread.*—Patent dated February 5, 1861.—By means of a lever I, under the plate of the machine, the cam wheel, which bears against the flat inferior surface of the gear wheel operated by the crank, can be moved nearer to or further from its axis, so as to have a quicker or slower motion. The lever I, which is connected to the arm E, through which the thread to be wound passes, bears against the cam head F, and thus a backward and forward motion is given to the thread.

Claim.—The combination and arrangement of the adjustable plate worm gear H and its return screw K, or their equivalent or equivalents, with the cam wheel G and the cam F, applied to operate the thread-carrier, substantially as specified.

No. 31,359.—SAMUEL B. H. VANCE, of New York, N. Y., assignor to MITCHELL, VANCE & CO., of same place.—*Improved Electrical Apparatus for Lighting Gas.*—Patent dated February 5, 1861.—The electrical machine consists of a case provided with a glass disk, leather pads and forks for collecting the sparks, the forks connecting with a globe secured to the top plate of the case, into which globe is secured the rod which communicates the spark to the burner. The burner is provided with a small pointed hook supported by a non-conducting bracket slipped over the burner. On the lower end of the hooked rod is a cup, into which is inserted the conducting rod. A portion of the conducting rod is formed into a spiral spring to prevent injury by concussion to the electrometer.

Claim.—First, the employment or use of a portable electric machine D, such as described, in place of the lamp, candle, taper, or other match generally used for the purpose of lighting gas.

Second, the arrangement of the cups *a*, or their equivalents, to operate in combination with the pointed hooks B, burners A, and with the electric machine D, in the manner and for the purpose specified.

Third, giving to a portion of the rod *b* the form of a spiral spring as and for the purpose set forth.

No. 31,360.—H. S. WALCOTT, of East Boston, Mass., assignor to SAMUEL ETER, of Boston, Mass.—*Improved Carpet Tack Driver.*—Patent dated February 5, 1861.—The toe piece is so arranged that when the lever is raised to its highest point the point of the toe piece is disengaged from the flange of the collar upon the hammer rod, and the hammer is forced down by the spring.

Claim.—First, the perpendicular spring hammer rod B and lever C, in combination with the frame A A1 A2 A3, substantially as set forth.

Second, in combination with the hammer rod B and lever C, the jointed toe piece C′ and grooved collar *g*, arranged and operating substantially as and for the purposes set forth.

Third, the pivoted spring tack holding jaws *a a*, in combination with hammer rod B, as described, for receiving and properly holding the tack until it is struck by the hammer rod.

No. 31,361.—ICHABOB WASHBURN, of Worcester, Mass., assignor to Himself and P. L. MOEN, of same place.—*Improvement in Hardening and Tempering Wire.*—Patent dated February 5, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—An apparatus for tempering steel wire, or other steel, in pieces of considerable length, composed of two furnaces A B, each of which contains a bath C or D of fusible metal or alloy, and an interposed quenching bath E, the whole constructed and arranged substantially as described, to enable the hardening and tempering to be performed at one operation without exposure of the steel to direct contact with the fire.

No. 31,362.—JAMES B. VAUGHN, of Marion, N. Y., administrator of E. VAUGHN, deceased, late of same place.—*Improvement in the Construction of Gauges for Mould-Boards of Ploughs.*—Patent dated February 5, 1861.—The object of this invention is to produce a gauge by which the mould-boards of ploughs may be readily and invariably shaped so as to possess a uniformity of curvature for the purpose of securing equality of pressure upon every part.

Claim.—The gauge *t*, constructed as set forth, in combination with the two curved directors or guides *m* and *n*, in the manner and for the purpose herein specified.

No. 31,363.—R. A. ADAMS, of Indianapolis, Ind.—*Improvement in Grainers' Tools.*—Patent dated February 12, 1861.—A piece of leather curved or pressed on one side to imitate the lines or figures of the wood or marble to be grained is secured to a crescent-shaped piece of wood, with a piece of cloth or batting interposed.

Claim.—Carved or stamped leather, gutta-percha, or other flexible material above referred to, secured to a crescent or other suitably shaped board or plank, substantially in the manner and for the purposes set forth.

No. 31,364.—JOSIAH A. ALLEN, of Deerfield, Mass.—*Improved Butter-Worker.*—Patent dated February 12, 1861.—The claim and engraving explain the nature of this invention.

Claim.—The arrangement of the pressing roller E with a reciprocating frame D, that has its extremities hung upon pins which run in longitudinal grooves in the tub, which pins serve as the axis of motion and also as guides for said frame, substantially as shown and described, whereby the distance between the roller and the bottom of the tub may be varied at pleasure, and whereby the butter may be gathered to the centre at will by the roller, all as set forth.

No. 31,365.—PHILANDER ANDERSON, of Norwich, N. Y.—*Improvement in Water Elevators.*—Patent dated February 12, 1861.—This invention consists in the employment, in combination with the buckets and windlass of a well, of a self-acting device so made that when a filled bucket has risen to the spout or trough to discharge its contents the said self-acting device will come into operation and change the direction of motion of the windlass. The drum plays loosely on the shaft, and thus causes the alternately filled bucket to rise while the empty one descends.

Claim.—The employment, in combination with the buckets, windlass, and windlass shaft, of a well of the self-acting device, composed of the oscillating, double-armed lever K, sliding toothed collar J, and oscillating lever M, with its spring L, in the manner shown and described.

No. 31,366.—DANIEL BARNUM, of Jersey City, N. J.—*Improvement in Guides for Sewing-Machines.*—Patent dated February 12, 1861.—This invention consists in the use of thin elastic sheet metal for making entire double-spring clamping gauges with elastic clamping surfaces outside of the gauge for preventing light flexible materials from crimping or doubling up against the gauge, and for sewing tucks, hems, and straight seams. Male and female corrugations are pressed in both under and upper springs to graduate their strength in various parts, and so as to form diagonal clamps, which are elastic and unyielding to inequalities, at the same time exerting a gentle pressure upon and inclining the material against the gauging lips.

Claim.—In gauges for sewing tucks and seams the combination of the following elements or features, as follows, to wit:

First, thin, elastic, and flexible sheet metal under and upper clamping surfaces *a* and *e*, outside of a gauge, as specified.

Second, a gauge turned up from or attached to the under spring-plate *a*, forming a base to the clamping surfaces *a* and *e* at the line *b e d*, as specified.

Third, the upper deflection of the edge *h* of the upper clamping surface *e*, as set forth.

Also, in combination with the combination first claimed, male and female corrugations or grooves *k*, struck up in and diagonally across both under and upper clamping surfaces *a* and *e*, as and for the purposes specified.

No. 31,367.—CHARLES BEACH and THOMAS BROWN, of Jacksontown, O.—*Improvement in Cultivators.*—Patent dated February 12, 1861.—The shovels are slightly concave on the face, and may be attached to the beam by screws and bolts, so as to be removable at pleasure.

Claim.—The arrangement of the concave shovel *c*, shield or guard *b*, beam A, with its curved neck *x*, the curved standards M M, and the handles N N, the whole being constructed as and for the purpose set forth.

No. 31,368.—DANIEL R. BOWKER and WILLIAM P. BENSEL, of New York, N. Y.—*Improved Machine for Chiming and Jointing Staves.*—Patent dated February 12, 1861.—The rotating cutter disk, which is made with a recess near its centre, and with knives placed obliquely upon its projecting surface, rotates upon a horizontal shaft. In front of the cutter disk, and in a line with its centre, is the stationary shaft I, which is bent to correspond with the recess in the disk, around which, as an axis, the swinging frame J revolves, being actuated

by the hand lever K. The stave is fastened in the clamp, so that each side can be in contact with the knives upon the rotating cutter. The heads G G, provided with a saw and knives for cutting the croze and howel on the stave, are attached to arbors fitted in heads on the upper and lower parts of the framing.

Claim.—The arrangement of the rotating cutter disk C, with the rotating cutter heads G G, and swinging clamp frame J, arranged for joint operation, substantially as and for the purpose set forth.

No. 31,369.—S. R. BRYANT, of Waterford, Pa.—*Improvement in Bee-Hives.*—Patent dated February 12, 1861.—The quadrilateral box, constructed with an inclined bottom, is divided into two compartments. The side of one compartment is constructed in two parts, each of which is connected with the adjacent end piece of the hive so as to form L-shaped doors, which are hinged to the end of the partition B. The bottom piece *a* is rigidly connected to the partition; one end, the side, and the bottom of the other compartments, are connected together, and the whole is hinged to one end of the partition. The comb frames are hinged to the partition *o o*, and a projection on the front bar keeps them from coming in close contact with each other. The cross rails are made narrower than the upright bars, which, in connexion with the guides *q*, prevent the bees from bringing the comb of one frame in contact with that of the one adjoining and from building out of the plane of the frames.

Claim.—First, the inclined bottoms *a a'*, in connexion with the hinged comb frames I and a quadrilateral box A, formed of side and end pieces, *b b' c c f*, arranged to open, substantially as and for the purpose set forth.

Second, the vertical guide strips *q* placed in the comb frames I, substantially as and for the purpose set forth.

Third, the V-shaped cross rails *m* of comb frames I, when constructed narrower than the upright bars *l l'*, and used in connexion with the guide strips *q* for the purpose specified.

No. 31,370.—JOHN R. CANNON, of New Albany, Ind.—*Improvement in Whips.*—Patent dated February 12, 1861.—This invention consists in manufacturing whip stocks of spring steel, or making the entire whip of steel.

Claim.—The within-described whip, as an article of manufacture, constructed as and for the purpose specified.

No. 31,371.—GEORGE CLARK and PETER T. ELTING, of Sandusky, O.—*Improvement in Bran-Dusters.*—Patent dated February 12, 1861.—This invention consists in the employment of stationary brushes and revolving disk screens, one or more in connexion with a fan and other concomitant parts, so arranged that while the bran, being acted upon by the brushes, is discharged from the screens, it will not be unduly acted upon or cut up too finely, and still a thorough separation of the flour and bran will be effected.

Claim.—First, a horizontal disk screen, provided on its under side with fan blades rotating within or above a packed chamber *h*, to produce a downward suction through the meshes of the screen, as set forth.

Second, in combination with the screen and brushes F, the adjustable frame G, arranged substantially as shown, to regulate the stiffness, elasticity, or yieldingness of the brushes, for the purpose specified.

Third, the horizontal brush E F, formed with oblique or tangential spaces *o*, operating in combination with a horizontal disk screen, substantially as and for the purposes set forth.

Fourth, the employment or use of the wheel L, in connexion with the oval faced hub *e'* and the flanch *d* of the hopper M, arranged to operate as and for the purpose set forth.

No. 31,372.—NELSON W. CLARK, of Clarkston, Mich.—*Improvement in Manufacture of Salt.*—Patent dated February 12, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The process described of separating and precipitating the salt contained in saline water by the aid of artificial heat whilst the water is continuously flowing through the series of pans or kettles at the surface of each, and carrying off the impurities still held in solution or suspension, at the end of the series of pans, substantially as described.

No. 31,373.—HOWELL COOPER, of Watertown, N. Y.—*Improved Heater for Cheese Vats.*—Patent dated February 12, 1861.—The water space in the vat is connected with the water in the heater by pipes attached to the bottom of the shell of the vat. In the water space of the heater is a bar having on each end a flat surface, acting as valves to the pipes from the upper water space, by which means the temperature of the water in the vat may be regulated.

Claim.—First, the combination with the heater and vat of a valve or valves arranged within the heater, and so as to close against the water in the vat, or pipe, or pipes leading from the heater thereto, substantially as specified.

Second, the employment of two or more valves, in connexion with the heater and vat, arranged to control the supply to the vat on the opposite sides of it, essentially as set forth.

Third, so arranging the valves which control the supply of hot water to the vat as that they balance each other, and are exposed on their respective faces and backs to like conditions of the fluid in the heater and vat, substantially as specified.

No. 31,374.—HENRY N. DEGRAW, of Green Island, N. Y.—*Improved Boot-Jack.*—Patent dated February 12, 1861.—Secured in bearings on the bottom of the foot piece is a shaft having at each end an arm or lever to which a cord is attached, on pulling which with the hand the shaft is made to turn, causing the rear ends of the shank to open outward and the jaws to be forced together so as to firmly clamp the boot.

Claim.—The jaws C C, attached to the foot piece A, and provided with the shanks or levers D D, in connexion with the shaft E, provided with spiral grooves *d d*, in which pins *c c* of the levers D fit, and the cord G, connected to the shaft E, all being arranged substantially as and for the purpose set forth.

No. 31,375.—ROBERT DODSWORTH, of St. Louis, Mo.—*Improvement in Hemp Breaks.*—Patent dated February 12, 1861.—The end pieces I of the frames A A are clamped in such a manner that the distance between them can be adjusted, and are provided with a groove in the inside extending around the edge, in which move the ends of bars, on whose upper surface are attached the flat plates which act as strippers. The bars are caused to revolve around the frame by means of gear wheels. To the end of one frame is attached the stationary breaker E, and on the end of the other is the breaker F, which has a reciprocating motion given to it by means of a pin working in a slot in a centre piece which unites a pair of parallel slides upon which the break head is fixed.

Claim.—The arrangement of the frames A A, the breakers E F, the strippers C C C, on the bars *b b b*, and the gangway, the whole to be arranged jointly and operated in the manner described.

No. 31,376.—OSCAR DOOLITTLE and NIRAM ELDRIDGE, of Dunesville, N. Y.—*Improvement in Ditching-Machines.*—Patent dated February 12, 1861.—The carrying band is so arranged, in connexion with a movable scoop at one end and a fixed pulley at the other, that it will accommodate itself, without being lengthened or shortened, to the different positions of the scoop as it is raised or lowered. With the carrying band is combined a vibrating spout for the purpose of receiving the earth from the band. A levelling plough is arranged in line with the track of the wheels of the carriage, for removing the inequalities of the surface, in order that the scoop may uniformly grade the bottom of the ditch.

Claim.—First, supporting the carrying bands at an intermediate point from the sliding frame, substantially as described, so that the band may be extended or contracted as the scoop is raised or lowered.

Second, the combination of a carrying band with a receiving and delivering spout, and a mechanism for giving the spout a positive vibratory motion, arranged substantially as described, for the purpose set forth.

Third, the combination of a ditching scoop, with grading ploughs arranged between the wheels, in order to remove the uneven surface of the ground in line with the track of the wheels, for the purpose set forth.

No. 31,377.—C. H. DUNBRACK, of Jacksonville, Ill.—*Improvement in Water Elevator.*—Patent dated February 12, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The adjustable drum D, arranged with the permanent wheel C, substantially as shown, to admit of the facile adjustment of the rope E, to suit the height of the water in the well.

No. 31,378.—RUFUS DUTTON, of Dayton, O.—*Improvement in Harvesting Machines.*—Patent dated February 12, 1861.—The invention consists in attaching to one of the reel supports the bar F, provided at each end with a bearing in which the axle of the reel plays. The coupling bar is grooved into the front ends of the sills of the frame, and the finger bar, which is attached by means of a curved hinged bar, is made rigid by the bolt *v'* fitting into the joint. When the machine is changed into a mower, the bolt *v'* is removed and the joint made flexible; the platform is also removed, and the shaft of the auxiliary wheel B' is inserted into the bearing on the support A.

Claim.—First, the construction of the frame, consisting in the combination of the upright standard, provided with the journal boxes for supporting the gearing and driving wheel or wheels, the curved brace *a a'*, and shield-board *b*, connected and arranged in the manner and for the purposes specified.

Second, the use of the auxiliary arm for supporting the reel in three bearings, one of which extends over the platform, thereby supporting, in a substantial manner, the reel which has no support on the grain side of the machine, said reel being capable of adjustment upon a pivot when constructed and arranged substantially as described.

Third, the arrangement of the main frame and metallic coupling arm R, adjustable hinged connexion of the finger bar, and auxiliary carrying wheel B', in the manner and for the purposes described.

Fourth, the combination of the axle V and auxiliary driving and carrying wheel B', with the main driving wheel B, whereby additional traction is secured for operating the cutter when the machine is used for mowing, substantially as and for the purpose described.

No. 31,379.—WARREN L. FISH, of Newark, N. J.—*Improvement in Guides for Sewing-Machines.*—Patent dated February 12, 1861.—The lip is arranged obliquely to the face of the gauge E, so that the end, which is in advance in the direction of the feed, is nearest the face of the gauge. The roller D presses upon the width of the plate, and is enabled, by its bearing springs and the limb B, to yield to any inequalities in the thickness of the cloth, and keep the cloth pressed down flat, thus avoiding any puckering. The spiral grooves upon the roller act to draw the cloth towards the gauge. A rod passes through the gauge and is made adjustable by a set screw upon its end.

Claim.—First, the combination of the pressure roller D, having a spirally arranged system of teeth and the oblique lip *f* on the lower plate, substantially as and for the purpose described.

Second, the employment, applied substantially as described, in combination with the gauge E of a tucking or plaiting guide, of a pencil *r*, or other marker, for marking the proper line in which to make the fold for the next tuck or plait while one is being stitched.

No. 31,380.—E. C. FRASER, of New York, N. Y.—*Improved Machine for Cutting and Punching Steel Metal.*—Patent dated February 12, 1861.—The object of this machine is to cut or punch out designs from a plate of copper or brass.

Claim.—The application of the tool C, constructed with a neck as described, for punching and cutting sheet metal, in combination with the adjustable die and die-bed A B, as set forth.

No. 31,381.—C. C. GARRETT, of Spring Hill, Ala.—*Improvement in Seed-Planters.*—Patent dated February 12, 1861.—Two hoppers are placed, one in front of the other, upon the frame, and under the orifice of each is placed the recessed wheels K and S, which insure the distribution of the seed, these wheels being rotated by gearing and bands. The bottom of the lower hopper is made slightly inclined; and when it is desired to plant cotton seed the periphery of the cylinder K′ is supplied with teeth, and the slides on the sides of the hopper raised or lowered.

Claim.—The arrangement of the shaft J, wheel K, cylinder S, gearing H I, hoppers K R, concave N, bottom L, spring M, slides O, lever frames P, screws Q, springs T, harrows U, and frame A, all in the manner and for the purposes shown and described.

No. 31,382.—SILAS M. GOFF, of East Addison, Vt.—*Improvement in Cultivators.*—Patent dated February 12, 1861.—This invention consists in the method of attaching a cultivating and a seed-covering device to the axle of a pair of wheels, so as to admit of a varying position of the frames, and the same axle and pair of wheels may be used both for a cultivator and covering device.

Claim.—The arrangement of the adjustable shares L, bar M, and frame K, with the frame N, segment bar O, roller N′, frame D, share E, toothed shaft F, and hooks J, in the manner and for the purpose shown and described.

No. 31,383.—GEORGE S. GREENLEAF and CYRUS BUCKLAND, of Springfield, Mass.—*Improved Carpet-Stretcher.*—Patent dated February 12, 1861.—This invention consists of two bars D C, secured together so as to be adjustable in length, and hinged at their opposite ends to two other bars B E, the end of one of which, E, is to be set against the wall at one side or end of the room. The end of the opposite hinged piece B is provided with a block having a roughened lower surface, which is designed to catch into the carpet and press it forward to its place, as the hinge part B is pressed down from a raised position. A ratchet bar, secured to the lattter named bar, is made to catch into bar C and hold it down.

Claim.—A carpet-stretcher, constructed and operating substantially as set forth and for the purpose specified.

No. 31,384.—N. D. HARTLEY and N. S. MOREHOUSE, of Quincy, Ill.—*Improvement in Bee-Hives.*—Patent dated February 12, 1861.—This invention consists of an arrangement of parts for the purpose of effecting a thorough ventilation through all parts of the apparatus, even when the hives are shut, and the ingress and egress of the bees prevent, and also providing a means for destroying moths or millers.

Claim.—The arrangement of a chamber A, slotted and perforated at C D Y B, box J, also slotted and perforated as seen at F and K, hives A′, provided with perforations L M N through top, bottom, and one side, cap O perforated at R and P through top and sides, in combination with a tube T and lamp Y, all constructed and operating substantially as and for the purposes set forth.

No. 31,385.—IRVING I. HARWOOD, of Boston, Mass.—*Improvement in Piano-Forte Action.*—Patent dated February 12, 1861.—This invention consists in placing a spring lever in any convenient locality which will insure its resting upon the top of the jack, and so operating in connexion with the spring of the jack as to push it at and after each blow instantly back to the bearing or shoulder, by which the jack lifts the hammer and forces it against the spring, for the purpose of keeping the hammer always in readiness to be impelled against the string, and insure quickness of action, as in repeating notes, trilling, &c.

Claim.—A yielding spring lever resting upon the jack, and so operating therewith as to keep the jack at each blow of the hammer in proper position to lift the hammer butt, whereby the hammer is always kept in readiness to strike the string whatever may be the position of the key lever.

No. 31,386.—DANIEL WEBSTER HENDERSON, of Deerfield, Pa.—*Improved Stump Machine.*—Patent dated February 12, 1861.—To the fulcrumed end of two levers are secured hooks which are made to catch into holes or slots in a vertical bar to which the grappling hooks are attached. The alternate raising and lowering of the longer ends of the levers, by means of the cords, causes the hooks to catch alternately in the slots of the vertical bar, by which means the stump is gradually extracted.

Claim.—First, the construction of the bar K, in combination with the hooks V 8, constructed and combined as described.

Second, the connecting the levers E and F together by the cord *a' a'*, the same operated by means of the combination of the cords M M M M P P N N N O O O, the pulleys U S T W, and the wheel and axle 14 G H, when the same are constructed in the aforesaid combination, and for the purposes set forth.

No. 31,387.—ABIAL C. HERRON, of West Farms, N. Y.—*Improvement in Car Brakes.*—Patent dated February 12, 1861.—This invention consists in using the momentum of the car to elevate the car body and its contents, and by the interposition of mechanical means between the body of the car and the axles of the truck, to give forward motion to the car upon the descent of the body thereof.

Claim.—First, in combination with a car, the spur gears, and the clutches C C F N D and O, the sway bars O Q, the shifters M, the rollers L, the chains K, and the hand P, or their equivalents, arranged as shown by Fig. 1, No. 1, and Fig. 2, No. 2, of the drawings, for the purpose specified.

Second, the scroll-wheel H, in combination with the springs G and the inclined planes F F, or their equivalents, for the purposes described.

Third, the spring B and sway bar A, as shown by No. 1, Fig. 4, of the drawings, for the purposes set forth.

No. 31,388.—THOMAS D. HOXEY, of Paterson, N. J.—*Improvement in Tape for Spring Skirts.*—Patent dated February 12, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of the longitudinal sack B, running lengthwise through the tape, with the rectangular bag or pocket now in use, for the purpose of receiving a spring in such longitudinal sack or bag, in order to re-extend the skirt after the same may have been collapsed by sitting or otherwise.

No. 31,389.—HENRY HUNSICKER, of Lewisburg Penn.—*Improvement in Machines for Separating Clover Seed, &c.*—Patent dated February 12, 1861.—The screen being placed over the receiving box, extends under the concave and rests upon a curved shoe, which enters only as far as the receiving box, the shoe having a vertical and horizontal reciprocating motion given it by a pitman attached to the fan shaft. The vibrating board J is pivoted to the front part of the machine over the fan and rests upon the shoe. The seed passing out from the concave is received in the discharge box, and from thence falls upon the screen.

Claim.—The screen F, as described, with its shoe G and vibrating board J, when the same are constructed and arranged in the relation to the discharge box E', concave bed D', and fan box K, set forth for the purposes specified.

No. 31,390.—WILLIAM W. HUSE, of Brooklyn, N. Y.—*Improvement in Cigar Machines.*—Patent dated February 12, 1861.—This invention consists in combining with a series of rollers two or more rotary conical "cap-formers" with sharp-cutting edges at the circumference of their bases, for the purpose of forming the cap and cutting off the point of the cigar. At one end of the series of rollers is arranged a pressing head, so acted upon by a spring as to keep the cigar up to the "cap-formers" during the operation of forming the cap on the cigar. An adjustable pressure roller is combined with a feed table, for guiding the wrappers to the work and for keeping them smooth.

Claim.—First, the rotating cap-formers J J, constructed substantially as described, in combination with the head *i*, adjustable rod H, and spring K, or their equivalents, for keeping the cigar up to the work of forming the cap.

Second, the adjustable pressure roller L, arranged and operated as described, in combination with the table C, substantially as and for the purpose set forth.

Third, the arrangement of the several parts, or their equivalents, substantially as described, and operating as a whole in the manner and for the purposes stated.

No. 31,391.—HIRAM HUTCHINSON, of Newark, N. J.—*Improvement in Manufacture of India-Rubber Goods.*—Patented in England December 29, 1858.—Patent dated February 12 1861.—A sheet of cloth, leather, or other material, together with a sheet of India-rubber,

prepared in the usual manner, is passed between rollers, on one of which a raised pattern is formed, and the raised pattern, by pressing the cloth and rubber together, causes the rubber to coat the cloth at the parts touched by the pattern, whilst at the other parts no adhesion is produced.

Claim.—Coating or combining India-rubber or other gums with sheets of cloth, leather, or other material, in the places and of the forms required, by the employment of pattern rollers, substantially as described, so that when the said sheets are cut up into shaped pieces of the required size and form, the remainder of the cloth, leather, or other material which becomes useless will not be coated or combined with the India-rubber, thereby producing great economy and great improvement in the goods.

No. 31,392.—T. B. JONES, of Earlville, Ill.—*Improvement in Seeding-Machines.*—Patent dated February 12, 1861.—This invention consists in a device by which a seed-planter can be made to sow seed either broadcast or in drills. When the seed is to be sown broadcast, it is delivered by the wheel E upon the pivoted plate, which scatters it, a plate attached to the top of the hopper and bent under the wheel serving to distribute the seed properly. When the seed is to be sown in drills, the plate is turned in the other direction, and the seed falls into tubes, and is delivered behind the shares of the plough.

Claim.—The employment or use of the pivoted or adjustable plate G in connexion with the elastic plates *g*, wheels E, seed box or hopper D', tubes I J, and passages *c*, arranged substantially as and for the purpose set forth.

No. 31,393.—R. A. LEEPER and Z. B. KIDDER, of San José, Ill.—*Improvement in Cultivators.*—Patent dated February 12, 1861.—As the machine is moved along, the bars I I, and consequently shares J, may be moved laterally in the arc of a circle, by means of an actuating lever and connecting rods. The arms, which form bearings for the wheels, are attached at right angles to vertical bars, the upper ends of which are secured in slotted plates secured to the sides of the frame, by which means the wheels may be adjusted so as to keep the frame balanced at all times.

Claim.—The employment of the laterally swinging bars I I and shares J in combination with the uprights *j'*, beams L L, crank shafts M, rods *t k*, and lever N, in the manner shown and described.

The arrangement, with the above-named parts of the arms *a a*, bars *b b*, and slotted plates D, and frame A, seat E, lever F, beams *m m*, uprights *j*, and standards G, in the manner and for the purposes shown and described.

No. 31,394.—WILLIAM LINTON, of Baltimore, Md.—*Improvement in Machines for Moulding Pottery.*—Patent dated February 12, 1861.—When the outer mould is forced around the inner or revolving core mould, the lip mould is forced into contact with the rib or projection upon the core mould, thus compressing the spiral springs, which, upon being relieved from the pressure, force the newly formed article down off the core mould. The lip-mould plays loosely on the interior or revolving mould.

Claim.—A revolving core mould in combination with a stationary yielding or traversing lip mould or top moulder, operated by springs so as to hold the vessel formed in the mould when the core is removed, substantially as described.

No. 31,395.—M. H. MANSFIELD, of Ashland, O.—*Improvement in Apparatus for Evaporating Saccharine Juices.*—Patent dated February 12, 1861.—The pan extends over the sides of the furnace, forming inclined planes, above which are placed strainers, and to the outside of the inclines are secured troughs. Guide bars are placed across the pan, with their upper edges inclined at one end, for the purpose of guiding the skimmer in bringing the scum upon the strainers and into the spouts.

Claim.—The arrangement of the incline sides H and strainers I, and the troughs J, in the manner and for the purpose set forth.

Also, the guide bars F, with the inclines *h*, in combination with the incline sides H and strainers, in the manner and for the purpose described.

No. 31,396.—WILLIAM S. MORRIS, of New York, N. Y.—*Improvement in Fish Hooks.*—Patent dated February 12, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The slide *c* upon the line *d*, in combination with the spring hooks *a a*, that are hinged together as set forth, so as to spread apart by pressing the upper ends together and confining them by the slide *c*, as specified.

No. 31,397.—ALFRED OWEN, of Buffalo, N. Y.—*Improved Nail Machine.*—Patent dated February 12, 1861.—The hammer at each end is attached to a rod connected to a cam wheel upon the driving shaft, and thus acquires a vertical motion. The endless chain-carrier is caused to revolve by the action of a pawl upon a cog on one of its shafts, said pawl being actuated by a crank which is turned by means of a connecting rod and cam wheel upon the driving shaft. The grippers on the chain-carrier have each two projections, arranged at right

angles to each other, each of which matches in the opposite toothed bars in front of the guides in which the carrier moves. The levers *m* on the holders, on passing between the guides, strike against a friction roller situated at the end of the guides above the carrier, by which they are depressed, and thus the force of the grip upon the rod is increased. When the nail has passed from between the guides, a striker attached to the end of the hammer strikes the end of the levers, and thus disengages the nail rod.

Claim.—In combination with a stationary anvil and a moving hammer, each provided with suitable shaping dies, an endless chain-carrier that brings up and carries past the dies the nail rods, substantially in the manner described.

Also, in combination with an endless chain-carrier the series of grippers travelling with it, for firmly holding and turning the nail rods to bring their several sides to the action of the hammer, substantially as described.

Also, in combination with a series of grippers that hold, carry, and turn the nail rods, the levers *m* for causing an increased gripping force when the hammer is acting upon the spike rod.

Also, in combination with a travelling chain-carrier and a series of grippers that hold, carry, and turn the nail rod, a delivering mechanism for releasing the nail when finished, substantially as described.

No. 31,398.—BENJAMIN O. PAIGE, of Lowell, Mass.—*Improvement in Stop Motion for Railway Drawing-head.*—Patent dated February 12, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—The arrangement of hinged clearers I and J, both above the upper and below the lower drawing rollers D, E, and F, and coming in contact with the entire length of each of these rollers, to perform both the functions of constantly cleaning or wiping them their entire length, and also to readily and certainly detect any and the least improper accumulation of sliver on any portion of any or all of the upper and lower drawing rollers, to instantly stop the railway drawing-head and all the connected cards, by the adjustable combination of both the same clearers for convenience in primary construction and subsequent use, with catch lever Z, slide rod W, and shipper U, and operated in the manner set forth.

Also the swinging frame P, carrying the calendar roll M, and the stand B2 and screw C2, when combined and so arranged with catch lever Z, slide rod W, and shipper U, as described, for regulating the stop motion in its primary construction, as well as adjusting it in its subsequent use; these parts being embodied with railway drawing-head and connected cards, and so operated by calendar roll M as to produce an even and uniform endless sliver, by instantly detecting and stopping the movement of the railway drawing-head and that portion of every connected card for moving the sliver, as described, whenever the latter becomes uneven or improperly reduced.

No. 31,399.—FERDINAND PIMMER, of Grand Junction, Tenn.—*Improvement in Ditching Ploughs.*—Patent dated February 12, 1861.—The object of this invention is to produce a plough which will open a ditch to any desired depth, throw the dirt on one side by means of a reciprocating shovel, and bevel the other side by the action of a rotary cutter, and which enables the driver to raise and lower the share, or to throw it out of the ground altogether, and also to cause the plough to run in any desired direction.

Claim.—First, the arrangement of the chain or rope *f*, extending from the ends of the thill H to the chain wheel G, on the arbor *b*, in combination with the guide pulleys *h*, slide *l*, and hand lever I, constructed and operating as and for the purpose described.

Second, the arrangement of the bent lever *r*2, rock-shaft *q*4*, slide *q*4, and journal box *q*1*, in combination with the regulating lever E, constructed and operating as and for the purpose set forth.

Third, the arrangement of the rotary cutter K, in combination with the share J, as described, for the purpose of bevelling one side of the ditch.

Fourth, the arrangement of the reciprocating reversible shovel L, in combination with the share J, constructed and operating substantially in the manner and for the purpose set forth.

Fifth, the arrangement of the arms *t t'*, chains *t* t'**, pulleys *w w'*, cams *u* u'**, and anti-friction chuck S, in combination with the shovel L, constructed and operating in the manner and for the purpose specified.

No. 31,400.—WILLIAM PRICE, of Mount Olive, N. C.—*Improvement in Cultivators.*—Patent dated February 12, 1861.—This invention consists in the arrangement of the several devices.

Claim.—The arrangement of the beam A, side frames A', handles B and B', shovels C, standards *a*, rake-head A2, and teeth *b*, pin *c*, and yoke *d*, the whole being constructed, combined, and operating as and for the purpose set forth.

No. 31,401.—JAMES H. RENSHAW, of Knoxville, Tenn.—*Improvement in Metallic Coffins.*—Patent dated February 12, 1861.—This invention consists in making a lapped joint for the coffin case, and in leaving a space for the inside of the lapped portion of the cover and a flange projecting up from the edge of the lower portion of the case, which space is to be filled

up with rubber or other suitable cement. Combined with a plate which fits around the back of the head of the corpse are two jointed and adjustable arms, in such a manner that the head may be secured rigidly in a desired position.

Claim.—First, the compound joint, consisting of the bevelled lapped portions *a a* and the cemented channel inside of the coffin, so arranged that the gas will press upon the surface of the cement, as and for the purposes set forth.

Second, the adjusting screw E, nut *k*, jointed arms F F, and spring support G, combined, arranged, and operating, in combination with a coffin, in the manner and for the purposes set forth.

No. 31,402.—STEPHEN REYNOLDS, of Richmond, R. I.—*Improvement in Machines for Binding Grain.*—Patent dated February 12, 1861.—The claim and engravings will explain the nature of this invention. The machine does not admit of a brief description.

Claim.—First, the revolving gatherers D, in combination with the endless apron B, operating substantially as and for the purpose set forth.

Second, the reciprocating carrier arm H, for passing the wire or string first across the opening in D, and then around the bundle, in combination with proper mechanism for holding the ends of the band and fastening the same, substantially as set forth.

Third, the employment of the double jaws L L′ L″, so arranged and operated that one end of the band shall be placed in one jaw and the other end in the other jaw, by the action of the carrier H, or its equivalent, without disturbing by the latter operation the security of the other end, substantially as and for the purpose described.

Fourth, causing the double jaws L L′ L″ to make one-half a revolution upon their axes after the wire has been placed in one jaw and before it is placed in the other jaw, substantially as and for the purpose specified.

Fifth, giving the jaws L L′ L″ an end motion by means of the stationary cams P P′, or equivalent device, for the purpose of bringing them into and removing them from the path of the carrier arm H, as set forth.

Sixth, the cutter or shear T, attached to the jaw L′ L″, for the purpose of cutting off the wire after it is gripped by the said jaw, in combination with the cam or wedge piece *t*, or equivalent, substantially as specified.

Seventh, rotating the double jaws L L′ L″, by means of the stationary gear or rack M, for the purpose of twisting the ends of the wires and securing the bundle, substantially as set forth.

Eighth, the arrangement of the guard W, for holding the wire in the proper position for the action of the twisting device, substantially as specified.

Ninth, the employment of the spring arms U V, in combination with the gatherers D, for supporting a small bundle in the proper position relatively to the binding devices, substantially as set forth.

Tenth, the employment of the stationary cam R, in combination with the jaws L L′ L″, for the purpose of relieving the bundle at the proper point, substantially as set forth.

Eleventh, the employment of the wedge-formed projection Y, pierced by the eye X, on the end of the carrier arm H, for opening the jaws L L′ L″ and depositing the wire therein, substantially as set forth.

Twelfth, the construction and arrangement of the double jaws L L′ L″, in the manner shown, so that they are both operated by the single spring *l′*, and are both released by pressing upon the rear end of L′, substantially as set forth.

No. 31,403.—MARTIN RILING, of Altoona, Pa.—*Improved Sausage-Stuffer.*—Patent dated February 12, 1861.—The threads of the screws work closely together and at the same time independently by means of the three cog wheels, so that the meat is forced through to the spout without checking or clogging the screws.

Claim.—The combination and arrangement of the two screws F F and the cog wheels C and E E, substantially as and for the purpose specified.

No. 31,404.—MARK L. ROBERTS, of Mount Union, O.—*Improvement in Knitting-Machines.*—Patent dated February 12, 1861.—The presser consists of a flat plate suspended by a spring and made to slide between two vertical stationary guides in close contact with the face end of the needle-carrier, a vertical sliding motion being given to the presser by means of a bent lever. The presser and guides are arranged outside of the needle cylinder; the object of the arrangement being to prevent the stitches from slipping out of the eyes of the needles as the latter are pushed forward.

Claim.—The arrangement of the vertical guides G′ G′ and the presser G with the said horizontal needle cylinder B, so that the guides and presser shall be outside of the face of the cylinder, substantially as described.

No. 31,405.—DANIEL M. ROBERTSON, of Manchester, N. H.—*Improved Machine for Feeding Screw-Blanks.*—Patent dated February 12, 1861.—The screw blanks are placed in the hopper, and slip with their points downward into the openings in the endless chain which

conducts them to the fingers above the inclined plane. The catches on the rock-shaft, in combination with the spring and levers, are operated by the cam on the disk in such a manner that the catch slips between the first and second screw on the inclined arms, and allows the first to fall into the tube. By the continued revolution of the cam the latch *i* is forced before the opening, the second latch is slipped back, and the second screw takes the place of the first, and is ready to drop into the tube. One side of the tube is pivoted to the support R, and is retained by a spring, so that in case the screw gets caught between the tube and disk, the side yields, and the screw falls between the disks.

Claim.—An endless chain, or its equivalent, with openings for the screws, screw blanks, or articles fed, working in a slot or groove in a hopper, so as to carry forward and feed the articles supplied to the hopper.

Also, in combination with the inclined planes S, the fingers R, which receive the screws from the chain J, or pulleys M, substantially as described.

Also, in combination with the cams on the disks *c*, the lever *m*, spring *n*, and rocking lever J, for the purpose of operating the latches *a* and *i*, as required.

Also, the tube V, in combination with the yielding lever *d*, or its equivalent, making one side *g*, of the tube V, to yield as described, for the purpose specified.

No. 31,406.—WILLIAM B. ROBERTSON, of West Baton Rouge, La.—*Improvement in Cane Harvesters.*—Patent dated February 12, 1861.—This invention consists in the employment of two horizontal knives, with two fenders or guards arranged a suitable distance above the knives, in conjunction with a double-turn plough, said knives being made adjustable both vertically and horizontally, and said fenders being made adjustable horizontally for the purpose of cutting sugar-cane and throwing it down in rows, to be afterwards gathered and stacked up for use.

Claim.—In combination with the knives *d d*, and fenders J J, the double mould-board plough C, and adjustable divided wings C′ C′, substantially as specified.

No. 31,407.—HENRY D. ROGERS, of Grafton, O.—*Improvement in Ploughs.*—Patent dated February 12, 1861.

This invention consists in a method of securing the wing to the plough point by means of studs, which are kept back in slots by the pressure of the removable point against the extended portion of the wing. By turning back the set screws at the back of the plough the wing and point may be readily removed.

Claim.—The rabbetted portion A, bevel-edged slots A′, countersunk studs B B B, and the extended portion of the wing marked C, the whole being combined with the shoe and point D, for the purpose described and set forth.

No. 31,408.—GELSTON SANFORD, of New York, N. Y.—*Improvement in Mills for Grinding Paper Pulp.*—Patent dated February 12, 1861.—Grooves and mortises are made in the top and bottom plates of the mill in which the tapering staves are inserted in reverse positions, and the spaces between them may be adjusted by a plate which can be moved up and down on the shaft. The serrated rubbers are attached to radial arms upon the central rotating shaft, and, by being fastened by bolts and screws, are made adjustable.

Claim.—In mills for grinding paper pulp, constructing the sides of conical-shaped staves with roughened surfaces, set alternately in reverse positions, so that the spaces between them can be adjusted as set forth, in combination with the serrated rubbers E, constructed and operating substantially as described.

No. 31,409.—IRVIN J. SAUNDERS, of Sparta, Ga.—*Improvement in Guano-Spreaders.*—Patent dated February 12, 1861.—A vibrating hopper is pivoted to the bottom of the main hopper so that one of its sides shall rest against a cam wheel, which is caused to rotate by a band from a pulley on the forward axle. A slide in the lower hopper serves to regulate the amount of guano to be dropped. The whole may be attached to the frame of an ordinary wheelbarrow.

Claim.—The combination of two hoppers A and B, slide S, cam wheel *c*, and its driving pulley *a*, with an ordinary wheelbarrow frame, all the parts being constructed, arranged, and operating in the manner and for the purpose set forth.

No. 31,410.—CHARLES HENRY SCHADT, of New York, N. Y.—*Improvement in Anvils.*—Patent dated February 12, 1861.—This invention consists in the arrangement of a stout spring, resting on the under side of a falling plate which supports the anvil, and which is acted upon from the upper side by a series of light springs in such a manner that the force of the blow is counteracted by the stout spring, and the recoil of this spring is counteracted by the light springs.

Claim.—The arrangement of the stout spring G, rising and falling plate E, and weak springs H, in combination with the case C and anvil A, constructed and operating substantially as and for the purpose described.

No. 31,411.—LEWIS HENRY SMITH, of Salem, N. J.—*Improvement in Sewing-Machines.*—Patent dated February 12, 1861.—The object of this invention is to stitch the seams of sails, tents, awnings, and other heavy work. The cloth is fixed between supports, and the needle-carriage travels along the seam. The machine does not admit of a brief description.

Claim.—First, the endless belt or chain U, pulleys T R, and clamping mechanism V' *f g*, or substantially equivalent devices, operating in combination with the cam shaft I, and ways Z', substantially as and for the purposes set forth.

Second, the adjustable cloth-holders Z E', and wires or lines W, upon a stationary frame operating substantially as set forth, in combination with a moving frame or carriage carrying the sewing mechanism.

Third, the connecting rod H, cam disk M, and slotted rocker J K L, operating in combination with the hinged slide D, substantially as set forth, to impart an intermittent lateral motion to the needle-carrier.

No. 31,412.—H. T. STANARD, of Wayne, Mich.—*Improvement in Hanging and Operating Window-Sashes.*—Patent dated February 12, 1861.—The cord is wound upon the spool, which is provided with a crank and spring pawl; on unwinding the spool the movable pulley *f* is drawn up, and the upper sash is lowered. When it is desired to raise the upper sash the pulley *c* is drawn up, winding the cord *i*, by which means the upper sash is raised. On continuing to wind, the lower sash will be raised also.

Claim.—The two sashes B B', connected by cords *b b'*, running over suspended pulleys *c c'*, in combination with the cord *d* stationary pulleys *g e e'*, movable pulley *f*, cord *i*, and spool *h*, with its accessories, all arranged and operating as specified.

No. 31,413.—V. STIREWALT, of Albany, Ga.—*Improved Churn.*—Patent dated February 12, 1861.—Upon the inner side of the churn cleats or ribs are secured vertically at suitable intervals. These cleats serve to arrest the motion of the cream, caused by the revolutions of the dasher, to break the butter globules, and cause eddies of the cream in the spaces between.

Claim.—The ribs or cleats L L, on the inner surface of the churn body A, arranged and operating in combination with the dasher H, substantially as and for the purpose specified.

No. 31,414.—J. C. STODDARD, of Worcester, Mass.—*Improvement in Rake Heads.*—Patent dated February 12, 1861.—This invention consists in forming a groove of a sufficient depth from end to end of the bar or head to which the wire rods are to be attached, and in forming a coil and a hook on one end of the wire rods or teeth to be attached to the bar.

Claim.—Attaching the steel rods B to the head A, by means of the hooked end *b*, coil *c*, on the rods, and the slot *a* and strips *d* on the head A, substantially in the manner set forth.

No. 31,415.—EPHRAIM J. STORY, of Getzville, N. Y.—*Improvement in Truss Bridges.*—Patent dated February 12, 1861.—This invention consists in the connexion of cast-iron arch sections and posts in a bridge by means of sockets formed in the ends of said sections, and balls formed on posts, so fitted as to form universal joints, and to give perfect bearings to the parts in all conditions of the bridge.

Claim.—The construction of the posts A, with balls *a*, and the arch sections B, with sockets *e*, in the manner and for the purpose substantially as shown and described.

No. 31,416.—J. W. TAYLOR, of Ashland, Va.—*Improvement in Cultivators.*—Patent dated February 12, 1861.—This invention consists of a cultivator that can be opened and closed at pleasure, and set to any width of furrow required.

Claim.—The arrangement of the parallel stays *c*, draw bar *d*, with its hinge *e*, cultivator frame X, and harrow frame *y*, the whole being constructed as and for the purpose described.

No. 31,417.—O. C. TAYLOR, of East Burlington, Pa.—*Improvement in Straw-Cutters.*—Patent dated February 12, 1861.—To one end of the lever is attached a gate which holds the cutter. Just in the rear of the fulcrum of the lever are attached two bars which act as pawls, and engage in ratchet wheels attached to the feed-rollers, so that, by communicating a reciprocating motion to the knife-gate, a corresponding feed motion will be given to the rollers.

Claim.—The lever F, provided with the pawls H H, applied to the feed-box A, and connected to the knife-gate C, and crank-shaft G, substantially as shown, for the purpose of serving as a means for operating the knife-gate C, and feed-rollers I I'.

No. 31,418.—EBENEZER TUTTLE, of Canaan, Me.—*Improvement in Water Wheels.*—Patent dated February 12, 1861.—This invention consists in the employment of a cylindrical gate applied to the wheel, so as to encompass and revolve with it, and having a series of horizontal projections attached to its lower end, so as to fit between the buckets of the wheel and form horizontal positions therein; all being so arranged that, as the gate is actuated or adjusted to admit water to the wheel, the partition plates will also be adjusted, and the capacity of the buckets varied according to the volume of water admitted.

Claim.—The combination of the horizontal adjustable plates *f*, with the buckets *c*, and gate F of a water wheel, substantially in the manner and for the purpose shown and described.

No. 31,419.—GABRIEL UTLEY, of Chapel Hill, N. C.—*Improvement in Ploughs.*—Patent dated February 12, 1861.—The mould board is provided on its outer edges with teeth or cutters projecting out nearly horizontally. To the front end of the land side is attached the share G, which has at its rear end a series of teeth curved upward, so as to form cutting edges for the slice raised by the share, by which means both the surface and subsoil are pulverized and made permeable to air and moisture.

Claim.—The arrangement of the mould-board H, cutters *h*, lower share G, and cutters *f*, with the land side E, standard D, adjustable upright F, and beam A, in the manner and for the purpose shown and described.

No. 31,420.—DAVID S. WAGENER, of Penn Yan, N. Y.—*Improvement in Machines for Hulling and Cleansing Clover Seed.*—Patent dated February 12, 1861.—The claim and engravings will explain the nature of this invention.

Claim.—In combination with a clover hulling and cleaning machine, a suction fan that will concentrate the dust and other light impurities within the machine, and then pass them out through a suitable conductor to any proper depository, substantially as described, when the same is accomplished by an arrangement of mechanism and passages, as described, for effecting the object and purposes represented.

No. 31,421.—DUTLE WILCOX, of Providence, R. I.—*Improvement in Sleeve-Fasteners.*—Patent dated February 12, 1861.—This invention consists of a plate provided with a tubular socket, upon one end of which projects a hook. A slide, provided also with a corresponding hook, moves in said socket, and is secured by a spring catch when the points of the projecting hooks meet.

Claim.—The sleeve-fastener constructed with a slider *f*, its spring catch *h*, and hook *g*, or its equivalent, arranged and applied to the body *a*, and the hook *e*, or its equivalent, substantially in manner and so as to operate as specified.

No. 31,422.—C. M. WILKINS, of West Andover, O.—*Improvement in Upsetting Tire.*—Patent dated February 12, 1861.—The anvil is provided with a mortise at each end for the insertion of keys or wedges, and on the top with a depression into which the tire is laid and hammered to form a loop. The tire being secured to the anvil by the wedges, the loop is forced up to the anvil while hot, by which it is shortened or upset.

Claim.—The combination of the wedges D D with an anvil, in the manner described.

No. 31,423.—C. WILLIAMS, of Boston, Mass.—*Improvement in Sewing Machines.*—Patent dated February 12, 1861.—This invention relates to the use of a clamping device attached to the bar or carrier of the perforating needle, for the purpose of clamping the thread of the needle firmly against the carrier during the first part of the ascent or withdrawing movement of the needle, and so causing the thread to be drawn up through the cloth with the needle, and preventing any loop from being thrown out on the wrong side of the needle, and preventing the thread from being drawn back through the eye of the needle, thereby insuring a proper quantity of slack being thrown out from the needle on the proper side for the entry of the looping device.

Claim.—The peculiar combination of the jaws F and G, and doubly bevelled tongue *h*, and doubly bevelled switch H *i*, the said parts being constructed and arranged as shown and described, and operating in the manner described, to cause the clamping of the thread during the early stage of the withdrawing of the needle, and prevent the clamping thereof during the downward stroke.

No. 31,424.—THEODORE BURR, of Battle Creek, Mich., assignor to Himself, AUGUSTUS ROWER, and PARCEL BRINKERHOFF, of same place.—*Improved Life-preserving Ship.*—Patent dated February 12, 1861.—The deck is constructed separately from the hull, to which it is attached by means of metal straps and keys. The mast is socketed below the deck, so that in case of accident to the hull the two parts may be readily separated.

Claim.—The use of the socketed masts in connexion with a life-escape ship, detached by means of straps and keys, substantially as described and for the purpose set forth.

No. 31,425.—JOSEPH DAVIS, of East Wilton, N. H., assignor to Himself and JESSE A. LOCKE, of Watertown, Mass.—*Improvement in Carding Machines.*—Patent dated February 12, 1861.—By having the lower series of rollers fluted, a space is left in each roller for the reception of dirt from the fibrous material, and the latter is also presented more readily to the teeth of the main cylinder.

Claim.—The described application and arrangement of the fluted rollers under the main card-cylinder, and to operate therewith, substantially in manner as specified.

No. 31,426.—C. W. FOSSLER, of Freeport, Ill., assignor to Himself and J. BALSBURGH, of same place.—*Improvement in Seeding Machines.*—Patent dated February 12, 1861.—This invention consists in an arrangement of seed slides and a cut-off, whereby the seed-distributing device is placed under the complete control of the driver. The front end of the implement

may be elevated and depressed, so as to regulate the depth of the planting as may be desired, or to elevate the furrow shaves entirely above the ground, when the seed-distributing device is rendered inoperative and the implement is being drawn from place to place.

Claim.—The arrangement of the seed boxes I, slides H J, shaft D, rods F, bar G, rollers B, lever M, rod N, caster wheel O, and shares *c' b'*, in the manner and for the purpose shown and described.

No. 31,427.—LANSING K. JENNE, of Grand Rapids, Mich., assignor to Himself and WILLIAM ASHLEY, of same place.—*Improvement in Corn-Planters.*—Patent dated February 12, 1861.—The sliding shaft is provided at each end with cams for the purpose of operating the slides. The boxes are provided with a partition so as to contain, one the fertilizing material and the other grain, both of which are discharged at the same time. Double mould ploughs are placed in front of each discharge spout to make a furrow for the reception of the grain, which is then covered by side turn ploughs placed in the rear.

Claim.—The arrangement of adjustable ploughs *d d* and *f f*, seed and fertilizing slides *e e*, sliding shaft *b*, by which the machine is thrown in and out of gear, lever *a*, double boxes D D, and check pins *n n*, when the whole shall be combined and operated substantially as and for the purpose specified.

No. 31,428.—JEFFERSON NASH, of Janesville, Wis., assignor to Himself and ALONZO K. CUTTS, of same place.—*Improvement in Grain Separators.*—Patent dated February 12, 1861.—The inner sides of the shoe are made without grooves or channels, and the sieve or sieve frame is held at any desired degree of inclination by means of a rod provided with a nut and screw, and passing through each side so as to press them together. The upper end of the sieve frame is made in the form of a notch or mouth which fits upon the edge of an apron, and by which it is supported.

Claim.—First, a hinge or joint formed by means of mouth *d*, of a gang of sieves, and the edge of apron D, of a separator shoe, when used in adjusting the angle and supporting the front end of a gang of sieves, substantially as described.

Second, sustaining a gang of sieves within the compressible sides of a separator shoe by means of a rod *a*, or its equivalent, substantially in the manner and for the purpose described.

No. 31,429.—QUARTUS RICE, of West Winsted, Conn., assignor to Himself and L. H. SMITH, of Salem, N. J.—*Improvement in Sewing Machines.*—Patent dated February 12, 1861.—This machine is designed for sewing long pieces of material in large quantities, as in making sails, and the invention consists in the method of constructing and arranging the mechanism for imparting motion from a fixed driving shaft to the main shaft of a sewing machine, so as to cause the machine to travel on a railroad, and at the same time perform the operation of sewing on the material.

Claim.—The employment of a sewing machine on a railroad in such manner that the machine shall travel on the road, while sewing, in combination with any suitable mechanism for imparting motion to the machine and sewing mechanism from a stationary driving shaft, substantially as and for the purposes described.

No. 31,430.—WILLIAM HARSEN, of New York, N. Y., assignor to Himself and FRANCIS N. BANGS, of same place.—*Improved Rock Drill.*—Patent dated February 12, 1861.—This invention consists in the construction of a rock drill, to be operated by steam or compressed air, and which is at the same time portable, capable of operation in any direction, and exposed to wear only in parts which can be readily and cheaply renewed.

Claim.—First, the gibs M N, constructed and operating substantially as and for the purpose specified.

Second, the combination of the hollow piston rod D, the gibs M N, and the rings O P, constructed and arranged for conjoint operation, substantially as described.

Third, the combination of the rings O P with the tubes G G' and the cylinder A, in the manner and for the purpose substantially as described.

Fourth, the combination of the tappet bar F, slotted box *f*, and valve rod *e*, constructed and operating as and for the purpose described.

Fifth, operating a drill tool or pounder by the direct application of steam or compressed air to the tool-holder, substantially in the manner set forth.

Sixth, the holes *m* in the tubes G, for the purpose specified.

No. 31,431.—H. C. ALFORD, of Minooka, Ill.—*Improved Washing Machine.*—Patent dated February 12, 1861.—The parts are so arranged and constructed that by imparting an oscillating motion to the tub the concave is caused to oscillate in an opposite direction, at the same time leaving the concave free to bear down upon the clothes with its full weight during the operation.

Claim.—The arrangement of the oscillating bar G, slotted arms H, and hinged levers B with the oscillating bar D, stem E, oscillating rubber F, and the oscillating tub A, in the manner and for the purpose shown and described.

No. 31,432.—RUFUS ANSON, of New York, N. Y.—*Improvement in Bath for Toning Photographic Pictures.*—Patent dated February 19, 1861.—To sixteen ounces of water add half an ounce of acetate of lead, and dissolve; then put in a separate bottle four grains of bichloride of mercury; dissolve this in two ounces of water; to this latter mixture add two grains of hyposulphate of soda, which solution, when dissolved, becomes milky white; then add this mixture to the aforesaid solution of lead, together with eight ounces of hyposulphate of soda; after shaking well, add to the mixture two drachms of glacial acetic acid.

Claim.—The use of bichloride of mercury in combination with the above or similar ingredients equivalent thereto in forming a bath for toning photographic pictures.

No. 31,433.—J. M. BACON, of Ripon, Wis.—*Improvement in Seeding Machines.*—Patent dated February 19, 1861.—The seed box is provided with two apartments, one of which is used for holding the seed, and in the other is placed a series of distributing wheels, openings being made between the apartments for the passage of the seeds. The wheels are provided with cups upon their peripheries, which catch and raise the seeds and deposit them in spouts, whence they are discharged through spouts to the ground, and covered by teeth secured to a series of bars.

Claim.—The arrangement of the seed box D, the shaft J, the wheels *a a*, provided with cups and constructed on their periphery, as described, and the discharge spouts on each side of the wheels, with the bars G, the troughs H, and the cultivator frame E, regulated and used as described for the purpose set forth.

No. 31,434.—LOUIS BALLMAN, of Boston, Mass.—*Improvement in Sewing Machines.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—A gate or hinged bobbin support, provided with journals for the pivots of the bobbin, in combination with a shuttle or bobbin case, the two being so connected that the journals can be moved out of the hollow of the shuttle, so that a bobbin may be removed therefrom without detaching the support or gate from the shuttle, and the combination being substantially such as described.

Also, in combination with a bobbin and a bobbin case or shuttle, an equalizing curve, constructed and placed substantially as described, and so arranged with reference to the bobbin and an eye through which thread is passed that thread passing off of the bobbin and through the eye shall in its transit slide over the equalizing curve, the combination being substantially such as before recited to produce the effect before set forth.

No. 31,435.—HIRAM BARBER, of Milpitas, Cal.—*Improvement in Gates.*—Patent dated February 19, 1861.—The stiles of the gate, which extend some distance above its body, are each provided with a roller, which rests on the adjustable rails B B′, and thus suspends the gate. The rails are pivoted to the middle part of the frame, and can be raised at one end by the lever and attached cord. On raising one end of the gate the pin at its bottom slides along the guide plates, and abuts against the springs G, thus communicating an impetus to the gate, which is carried by its gravity down the rails.

Claim.—In connexion with the adjustable rails B B′, the springs G G, and plates *f f*, arranged to operate substantially as and for the purpose specified.

No. 31,436.—FRANKLIN BISBEE, of Scituate, Mass.—*Improvement in Masons' Trowels.*—Patent dated February 19, 1861.—The object of this invention is to protect the hand of the operative, to keep the shank firm in the handle, and to prevent its breakage in the offset of the shank between the handle and the blade.

Claim.—The ferrule shaped and operating substantially as set forth, when combined with the handle and offset shank of a mason's trowel or other tool.

No. 31,437.—JOSIAH BISHOP, of Austin, Texas.—*Improvement in Machines for Extracting Cotton and Corn stalks.*—Patent dated February 19, 1861.—This invention consists in attaching a series of fingers to parallel bars, which are connected to a mounted frame or wagon, and so arranged as to have a forward and backward and also an up and down movement given it by the forward movement of the vehicle, by which operation the fingers are made to grasp the standing stalks and draw them out from the ground.

Claim.—The fingers *h h*, either or both sets or series, when connected to a mounted frame A, and operated by the draught movement of the same, substantially as shown, so as to have a backward and forward movement, and also an upward and downward movement, for the purpose specified.

Also, in combination with the fingers *h h*, either or both sets or series, the cleaning bar K, arranged relatively with the fingers, to operate as and for the purpose specified.

No. 31,438.—DOUGLAS BLY, of Rochester, N. Y.—*Improvement in Artificial Legs.*—Patent dated February 19, 1861.—This invention consists in providing a circular or annular cavity around the bearing socket for the ball in the foot, and constructing the leg with a spherical or hemispherical termination, which also encloses the bearing socket of the ball.

The spherical termination enters the cavity of the foot, nearly filling it, being sufficiently small to move without friction, and therefore completely encloses the ball, hiding it from observation, and protecting it from dust or dirt that might otherwise intrude between the bearing surfaces and hinder their proper working.

Claim.—The rounded or hemispherical termination of the leg at the ancle, with the recess G in the foot for the reception thereof, when combined and arranged with a joint bearing having a universal motion on a single centre, substantially as and for the purpose shown and described.

Also, the stop or projection *m*, when combined with the corresponding recess in the shell H, substantially in the manner and for the purpose set forth.

No. 31,439.—JOHN M. BRAHN, of Red Bank, N. J.—*Improvement in Railroad Switches.*—Patent dated February 19, 1861.—The switch rails rest upon iron-faced sleepers and slide laterally upon them, one switch rail being pivoted at its end to the sleeper of the main track. Under the switch rail is firmly attached a beam, which projects out on each side where the end of the horizontal levers *h' h'* are attached; these levers are each attached to one end of the levers *k k'*, the other end of which comes so close to the track that a projection upon the front of the engine can strike against its end, and thus communicate a lateral motion to the beam E, and throw the switch rail in connexion with the rails of the branch track. Upon the front sleeper of the switch are a row of holes in which a hook fits, thus locking the switch. This hook is raised from the holes by the action of the projection on the engine truck on the vertical arms *s* and *t*, and levers F F'. The hook is retained in place by the spring E.

Claim.—The post E, with its hook *m*, arranged as set forth, so as to lock the switch rail tie *c'* to the sleeper *d*, in combination with the levers F F', arms *t t'*, tranverse shafts G G', and vertical arms *s s s s*, all arranged and operating in conjunction with the horizontal levers *k k h h* and *k' k' h' h'*, substantially as specified for the purposes set forth.

No. 31,440.—SALEM COPELAND, of Worcester, Mass.—*Improvement in Guards and Fingers for Reaping and Mowing Machines.*—Patent dated February 19, 1861.—The steel plate is cast separately and can be placed upon the part A, and slid under the dovetail projection and firmly retained, thus forming a perfect smooth steel plate for the cutter to play over.

Claim.—First, sliding the steel plate or face of a cast or malleable iron guard under dovetailed projections on the body of the guard, substantially as and for the purposes set forth.

Second, the combination of the curved and bevelled projections *c c* on the steel plate, with the curved projections *c c* on the body of the guard, substantially as and for the purposes stated.

Third, the combination of the steel plate or face C, with the cast or malleable part A, the parts being constructed and combined as and for the purposes set forth.

No. 31,441.—JOSEPH CRAGG, of Baltimore, Md., and SAMUEL ARCHBOLD, of Washington, D. C.—*Improved Surface Condenser for Steam Engines, &c.*—Patent dated February 19, 1861.—The outside casing of the surface water condenser is made hollow, with steam and water passages and recesses for followers and packings. A steam-tight joint is made of vulcanized India-rubber compressed against the spine plates. The spine plate has projecting flanches on the water side, dipping into the hollow spines on the steam side, in order to produce a thorough circulation of water or other fluids in the upper and lower spines.

Claim.—First, the form and general arrangement of the outside casing marked E, with the steam and water passages.

Second, the mode of making a water and steam tight joint between the casing and spine plates.

Third, the mode of arranging the spine plates for the purpose of obtaining, with little cost, a large quantity of surface in a small space, and a thorough circulation of the steam, water, or other elastic or non-elastic fluids, using for the purpose specified an apparatus as described.

No. 31,442.—WILLIAM W. CUMBERLAND, of Newark, N. J.—*Improvement in Hat Blocks.*—Patent dated February 19, 1861.—This invention has for its object fastening the several parts composing an entire block together in such a manner that they can be easily separated, and be introduced singly through an aperture smaller than the largest part of the block when all parts composing it are placed in their proper position, and shall again become firmly attached to each other, when the parts are again brought into their proper relative position within the aperture, and may afterwards be readily withdrawn when required.

Claim.—First, the fastenings G, H, I, and J, attached to the sides of the centre piece A, in combination with the fastenings G', H', I', and J', let into grooves formed in the other pieces of the block of a corresponding cross section and corresponding taper with the fastenings G, H, I, and J, the fastenings in the grooves being so adjusted in position that their inner surfaces shall come in contact with the inner surfaces of the fastenings G, H, I, and J, and their points come in contact with the projections on the opposite fastenings, at the same time that the sides of the fastenings G, H, I, and J come in contact with the sides of the grooves, so as to wedge the fastenings attached to the centre piece on three sides, and wedge the pieces of the block together and insure the proper position of the several parts of the block with regard to each other, substantially as described and for the purpose set forth.

Second, in combination with fastenings attached to the centre piece, the arrangement of one or more spring catches, having their upper ends bent back into the finger space, and so placed that the springs will be relieved from their corresponding notches in the side pieces by grasping the upper ends of the springs when the centre piece is grasped, so that one or more of the spring catches can be released by the same hand of the workman that is used to withdraw the centre piece, while his other hand can be used to hold down the outside pieces of the block when he is withdrawing the centre piece.

Third, in combination with the metal fastenings attached to the sides of the pieces, preventing the points of the downward projections K of the fastenings attached to the centre piece from wearing away the sides of the grooves in the blocks (when formed of wood) with which they come in contact, by means of a slot in the end of said projections, and a screw passing through the corresponding part of the fastenings in the grooves and secured in the wood in the bottom of the grooves, the smooth neck of which shall enter the slot and fit it on the two sides when the parts are in proper position, substantially as described and for the purpose set forth.

No. 31,443.—C. H. DENISON, of Brattleboro', Vt.—*Improved Felloe Machine.*—Patent dated February 19, 1861.—The object of this machine is to round the inner sides of felloes for wheels. A circular plate between the disks may be so adjusted as to cause the inner surface to be more or less rounded. The cutters round about half of the spaces between the spoke holes when the felloe is in one position; it is then reversed, and the remaining parts finished, the felloe being moved along after each cut. In rounding steamed felloes they are moved along on the head, and the whole felloe is finished at one operation. The parts are so constructed that in rounding the surfaces of segment or sawed felloes their ends are prevented from splitting or shelling off.

Claim.—First, the adjustable plates *n p*, provided with the pins *o q*, when used in connexion with the plate G, and cutter head F, as and for the purpose set forth.

Second, the combination of the adjustable semicircular bed or bearing piece I, and yielding bar J, with the cutter head F, plate G, and bars *n p*, provided with the pins *o q*, all being arranged for joint operation as and for the purpose set forth.

No. 31,444.—PAUL F. DODGE and WILLIAM S. DODGE, of West Cambridge, Mass.—*Improvement in taking Photographic Pictures by Artificial Light.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—The combining with an artificial light, and one or more series of reflectors, of an intercepting medium or plate, when so arranged with respect to the object and the light and reflectors as to intercept or soften the dazzling rays from the light, and allow the unobstructed rays to pass from the light upon the reflector, and thence upon the sitter, substantially as described.

The peculiar arrangement of the upper and side reflectors together, so that the side reflectors cast their reflected rays upon the object, while the upper reflector casts not only the rays thrown upon it by the light upon the object, but also throws upon the object the reflected rays from the side mirrors, all as set forth.

No. 31,445.—RICHARD DONALDSON, of Mount Nebo, Pa.—*Improvement in Lime-kilns.*—Patent dated February 19, 1861.—The conical cooler is suspended within an open archway beneath the furnace, by means of a flange on its upper part, its lower end or mouth being provided with an iron rod extending outwardly, and bent so as to form slots for supporting the handles of bladed levers. The bottom of the cooler is provided with a lid, having a raised rim, for the purpose of preventing the entrance of air.

Claim.—The arrangement of the conic cooler F, with its rim or flange *f*, guide rods *m*, bladed levers L, and lid G, in combination with the kiln, the whole constructed and operating in the manner and for the purpose substantially as described.

No. 31,446.—H. C. DREW, of Stockbridge, Mich.—*Improvement in Capstan for Ploughs.*—Patent dated February 19, 1861.—The main wheel attached to the centre shaft is spurred only on a part of its circumference, so as to engage alternately with the spur-wheels on either side. To the circumference of the main wheel is applied a spring-rack for bringing the teeth of the pinion wheels in a proper relation to those on the main wheel. A chain is unwound from one drum while that on the other is being wound up.

Claim.—The arrangement of the spring-rack G with the blank-sided driving gear-wheel D, pinions E E, and drivers F F, all as shown and described for the purpose set forth.

No. 31,447.—PETER DUNWALD, of Corning, N. Y.—*Improved Churn.*—Patent dated February 19, 1861.—The axis *c* is formed slightly smaller at the part occupied by the washer, and this end of the axis is attached to the handle. By this construction the act of securing the axis in the part 4 draws the dasher tight against the inner end of the pipe, and the washer acts with the spring-pressure against the other end, thus keeping the axis water or milk tight.

Claim.—The axis *c*, provided with the washer 6, kept to the end of the pipe 3 by a spring 7, said axis *c* screwing into the socket 4 on the dasher *b*, as and for the purposes set forth.

No. 31,448.—BENJAMIN H. ELMORE, of Richmond, Ind.—*Improvement in Corn-Planters.*—Patent dated February 19, 1861.—The slides which regulate the feed are opened alternately by means of a strap and slide, to which motion is imparted by a cam on the driving shaft.

Claim.—The combination of slides U and W and spring-valve V with strap S, slide O, cam N, shaft J, and wheel H I, the whole being constructed and operated substantially as set forth.

No. 31,449.—SAMUEL T. FIELD, of Worcester, Mass.—*Improved Process for Manufacturing Wooden Eave-troughs and Piping.*—Patent dated February 19, 1861.—A stick or timber, of suitable material, is fed forward upon a platform through which works a tubular saw, cutting the timber in the proper form. By the use of a tubular cutter and suitable revolving tools the cavity, groove, and moulding are formed before the stick leaves the machine.

Claim.—The mode or process described of manufacturing wooden eave-troughs and material for tubular conductors at one and the same operation, and from the same stick of timber.

No. 31,450.—ANTHONY L. FLEURY, of Philadelphia, Pa.—*Improvement in Tools used in the Manufacture of Iron.*—Patent dated February 19, 1861.—This implement is designed to contain substances used in the manufacture of iron, and is constructed in taper form, with its larger end fitted with a movable cap for the introduction of salts or other solid matters into the tube in the process of stirring.

Claim.—A hollow stirring-tool A, provided with a removable cap B, and otherwise constructed substantially as shown and described.

No. 31,451.—L. P. GARNER, of Ashland, Pa.—*Improved Machine for Breaking Coal.*—Patent dated February 19, 1861.—The vertical toothed face-plate rotates in front of the toothed wheel under a hopper, and rests loosely upon adjustable bearings in the hopper frame. Coal being supplied to the hopper, and a rotatory motion being given to the plate, its teeth, in conjunction with the teeth upon the roller, effectually break it up into small pieces.

Claim.—The combination of the toothed rotating face-plate C and toothed cylinder or roll H, the whole constructed and operating as described for the purpose set forth.

No. 31,452.—JOSEPH K. GINGRICH, of North Annville, Pa.—*Improvement in Ploughs.*—Patent dated February 19, 1861.—The driving-wheel rotates upon an axle attached to the swinging-bar N, and can be raised from the ground by the rod P. This wheel, by means of a connecting rod, operates the crank I, giving the bar *k*, which is crescent-shaped at its extremity, a downward and thrusting movement for clearing grass, &c., from the standard and bar. The team is attached to the rod H, the rear end of which is fastened to the bent lever I behind the standard and under the beam, one arm of this lever extending under the beam, and connected by the rod *g* to the curved spring J, thus forcing the plough down to its work, the spring obviating the injurious effects of concussions.

Claim.—I claim the arrangement of the driving-wheel L, elevating rod P, swinging rod N, connecting rod L′, crank *h*, cleaner *k*, beam G, rod *h*, crank I, spring J, and handles F F′, with the plough body A A′ B B′ C D D′, as and for the purpose shown and described.

No. 31,453.—R. GOLDENBLUM and F. STEINER, of East Hampton, Mass.—*Improvement in Compositions for Water-proofing Leather.*—Patent dated February 19, 1861.—This invention is explained by the claim.

Claim.—The composition made of fish oil, India-rubber dissolved in spirits of turpentine, petroleum, rosin, pitch, beeswax, tallow, common soap, and lard, as described.

No. 31,454.—JOSIAH C. GRAY, of Frankfort, Ind.—*Improvement in Bee-Hives.*—Patent dated February 19, 1861.—This hive is designed to prevent the entrance of millers or moths, who will not touch with their feet the cold metallic rim of the hive, and therefore will not enter the feeding-box by the upper aperture F.

Claim.—The described arrangement of bee chamber A, pedestal B, moth trap C, mineral floor E, having the described upward and downward apertures F G, and breeding-boxes H, whose floors J are elevated from the floor E by metallic rims closely fitting the said floor, in the manner and for the purposes set forth.

No. 31,455.—JOHN GRIFFIN, of Louisville, Ky.—*Improvement for Changing the Speed of Steam Carriages.*—Patent dated February 19, 1861.—The cylinder is hung on trunnions. When it is desired to give the machine a slow movement, the piston is connected to the pitman *i′*, which operates a pinion gearing with a cog-wheel on the driving-wheel of the machine. The frame F connected to the piston of the air-pumps is attached to the head of the pitman, so as to have a reciprocating motion with it. When it is desired to give a rapid forward movement to the machine, the steam cylinder is connected to the pitman H′, which actuates a crank directly attached to the axle of the driving-wheel.

Claim.—The arrangement, essentially as shown, of the steam cylinder *e*, hung on trunnions *f*, in connexion with the reciprocating frame F, air pump G, pitmen H′ *i′*, and gearing *l m*, whereby the speed of the carriage may be changed from fast to slow, and *vice versa*, as occasion may require.

No. 31,456.—ELISHA A. HEARNE, of Lowndes county, Ala.—*Improvement in Cotton-Cleaners.*—Patent dated February 19, 1861.—The claim and engraving explain the nature of this invention.

Claim.—A revolving drum armed with a series of paddle-shaped beaters, arranged in straight lines all around the drum, combined with a central feed hole and discharge spouts, situated near each corner on the back side of the box the drum revolves on, as substantially described.

No. 31,457.—BENJAMIN F. HEBARD, of Neponset, Mass.—*Improvement in Burning Fluid Compositions.*—Patent dated February 19, 1861.—This invention is explained by the claim.

Claim.—The composition of fusel oil, kerosene, and spirits of turpentine, and its combination with a perfuming essential oil, as set forth.

No. 31,458.—GOODRICH HOLLAND, Willimantic, Conn.—*Improvement in Machines for Sorting Silk and other Thread.*—Patent dated February 19, 1861.—In the operation of this machine the thread to be sorted is wound upon the bobbin at the lower part of the machine; one end of the thread is passed between the rollers M and N and made fast to one of the bobbins above, according as it may be larger or smaller than the average size; if on the bobbin to the left, and not above the size, it will pass between the rollers without turning them. When the thread gets above the average size, the increased friction will cause the inner roller to rotate, which causes the screw on the roller to move one arm of a tumbler beyond the support of the roller, so that its upper arm will be thrown against the rocking frame J by means of a weighted arm of the tumbler, which tends to raise the bobbin from contact with the friction wheel and stop its motion, when the winding will cease. The carriage is then pushed to the opposite side, and the thread is secured to the other bobbin.

Claim.—The combination of the rocking frame J and weighted tumbler *n o p*, with the roller N and bobbin C, in the manner substantially as shown and described.

Also, providing the periphery of the roller N with a screw thread *m*, as and for the purposes set forth.

The combination of the screw-threaded roller N and a chaser *k*, with the roller M, in the manner substantially as shown and described, so that when the size of the passing thread increases, the roller N and its screw *m* will be rotated and carry the chaser out of the screw, and thereby cause the stoppage of the thread-winding bobbin, all as set forth.

No. 31,459.—EDWARD HOLMES and BRITAIN HOLMES, of Buffalo, N. Y.—*Improved Stave Machine.*—Patent dated February 19, 1861.—The stave is passed between the feeding rollers in the gear frame of the machine, and between the cutters in the cutter frame G. When a crooked or bent stave is inserted the flexible connexions allow the cutter frame to accommodate itself to the inequalities in the stave without stopping the machine.

Claim.—First, connecting the cutter frame G to the stationary or gear frame of the machine by means of flexible or yielding connexions H and I, so as to admit of the oscillation or movement of the cutter frame in any direction, according to the peculiar requirements of each stave to be dressed, substantially as set forth.

Second, the arrangement of the flexible mouthpieces P and P′, in the cutter frame G, substantially as described, in combination with the flexible connexion of said cutter frame to the stationary or gear frame of the said machines, as set forth.

No. 31,460.—MYRON R. HUBBELL, of Wolcott, Vt.—*Improved Vegetable Cutter.*—Patent dated February 19, 1861.—At the bottom of a hopper is arranged a sliding frame having a platform extending across its central part. The frame is provided with two horizontal knives, and to the platform is secured a series of vertical knives. Secured to the frame in the centre of the hopper is a stationary bar, against which the roots are cut by the knives as they are alternately brought against it on either side by the reciprocating movement of the frame.

Claim.—The knives C D E F, and platform *b* carried in a reciprocating frame, and arranged to operate in connexion with the hopper G and cross-bar or partition H, substantially as set forth.

No. 31,461.—JOHN W. HYATT, jr., and ISAIAH S. HYATT, of Chicago, Ill.—*Improved Knife-Sharpener.*—Patent dated February 19, 1861.—The peripheries of all the wheels are in close contact, so that by turning the large wheel the small twin wheels will each rotate in opposite directions. The axles of the small wheels rest in slots in the frame, and the spring pressing against the ends of the shaft forces the wheels together.

Claim.—The combination of the wheel D and springs J J, or equivalent pressing device, with the wheels G G′, in the manner shown and described.

No. 31,462.—D. A. JOHNSON, of Chelsea, Mass.—*Improvement in the Mode of Uniting the Spokes and Felloes of Wooden Wheels.*—Patent dated February 19, 1861.—This invention will be understood by reference to the engraving.

Claim.—The coupling of spokes with the parts of felloes of wooden wheels by means of a metallic band, in the manner described, at each or any of the spokes, and conical pin or

wedge for expanding the end of the spoke, constructing said band with an hour-glass-shaped cavity for reception of the spoke, and making the band to cover or overlap the outer end of the spoke, substantially as shown and described.

No. 31,463.—DANIEL KAUFMAN, of Boiling Spring, Pa.—*Improved Broom.*—Patent dated February 19, 1861.—This invention consists in the arrangement of clamps consisting of two plates, the ends of which are made to slide one in the other, and which are united and fastened to the broom by means of screws screwing from opposite sides into rings in combination with a handle, the inner end of which is slotted to receive one of said rings in such a manner that by means of said clamps the broom corn can be fastened to the handle.

Claim.—The employment of clamps A, consisting of two plates *a b*, screws *c*, and rings *d*, in combination with the slotted end of a broom handle B, constructed and operating as and for the purpose specified.

No. 31,464.—JAMES P. KENYON, of Brooklyn, N. Y.—*Improvement in Hydrants.*—Patent dated February 19, 1861.—At the bottom of the shell or case is a cylindrical chamber in which works a plunger H surrounded by a packing. At the top of the plunger is a chamber K, into which extends the tube L, which connects with the water pipe at the bottom of the hydrant. Upon the upper part of the tube G, which extends through the plunger, is secured a tube F communicating with the spout, the latter being fitted in guide plates which slide in grooves or recesses in the shell. When operated, the plunger and spout, with the connecting pipe, are depressed by means of a yoke and crank shaft having a handle extending outside of the shell. On the lower part of the tube L is a shoulder *o*, which arrests the packing as it descends and frees the washer, so that water is admitted into the pipes, and when the downward pressure is removed from the crank the water presses against the chamber K and raises the plunger.

Claim.—First, the arrangement of the chamber J, central tube L, shoulder *o*, or its equivalent, with the plunger H, provided with the chamber K, packing M, and tube G, the latter being in communication with the chamber J, tube F, and spout D, substantially as and for the purpose set forth.

Second, the handle E, crank-shaft C, and yoke *c*, when used in connexion with the plunger H, chamber J, tube L, and their concomitant parts, all arranged for joint operation as set forth.

No. 31,465.—JOHN G. LEFFINGWELL, of Newark, N. J.—*Improvement in Gas-Cocks.*—Patent dated February 19, 1861.—The gas enters in a hollow screw and passes through ports in its end into a pipe which is screwed to it. Between the opposite ends of the pipe is placed a valve having ports corresponding to those in the pipes. This valve is hung on a pivot, and is turned by a lever arm. The distance which the valve is turned can be regulated by set screws. The valve lever can be attached by wires to a lever placed in any convenient situation, so that the flow of gas can be easily regulated.

Claim.—The combination of set screw or screws and lever with a gas-cock, constructed substantially in the manner and for the purpose specified.

No. 31,466.—RUSSEL R. LEWIS, of New York, N. Y.—*Improvement for Vapor Burners for Heating, &c.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The burner composed of the inner and outer perforated tubes A B, the disks *a a*, and the granulated mineral filling in the annular space between said tubes, the whole combined substantially as and for the purpose specified.

No. 31,467.—GEORGE S. LOBDELL, of Wilmington, Del.—*Improvement in Railroad Car Wheels.*—Patent dated February 19, 1861.—The object of this invention is to increase the strength of the rim of the wheel—the part most requiring strength—without materially increasing its weight. The rib is connected to the wheel by braces in the plate extending to its hub.

Claim.—In single-plate wheels the construction of the flange D, with an inner rib E, arranged and employed in relation to the said flanch and the remaining portions of the wheel, in the manner and for the purposes described.

No. 31,468.—WILLIAM A. LUDDEN, of Brooklyn, N. Y.—*Improvement in Smoking Tubes.* Patent dated February 19, 1861.—The claim and engraving explain the nature of this invention.

Claim.—A telescopic smoking tube, composed of a sliding tube or shell A, perforated piston or tube B, and mouthpiece C, the whole made as shown and described.

No. 31,469.—I. G. MANLEY and F. WEDGE, of Zanesville, O.—*Improved Earth-boring Machine.*—Patent dated February 19, 1861.—Within a hub supported upon three legs is hung a nut, through which works a long screw shaft. The end of the screw shaft is keyed to a stirrup, in which it turns. Above the stirrup is a coupling piece having inclined projections

fitting in corresponding recesses in the upper part of the stirrup in such a manner that the shaft is made to operate the screw when boring a hole in the ground, and a reverse motion of the shaft will raise the screw out of the ground without turning it.

Claim.—First, the arrangement of a screw shaft D, with a slip coupling F G, in combination with an auger M N O, substantially as and for the purposes set forth.

Second, the combination of a screw shaft D, of an auger M N O, with a swinging nut A, and a frame P C, substantially as and for the purposes set forth.

No. 31,470.—JOHN B. MCINTOSH, of Girard, Pa.—*Improvement in Machine for Loading Hay.*—Patent dated February 19, 1861.—This device is designed to be connected to the rear end of a wagon, and moves on wheels with the wagon, having a rake on the under side to gather up the hay, which is conveyed up by carriers operated by endless belts into the wagon. Upon the carrier is arranged a hood or covering of cloth to prevent the hay from falling or blowing away.

Claim.—The employment of the cam P, constructed and operating as described, in combination with the tooth bars *b*, to discharge the hay on to the endless apron O, in the manner and for the purpose specified.

Second, the arrangement of the frame N′, with the adjustable hood *z*, in combination with carrier N and endless apron O, in the manner and for the purpose specified.

No. 31,471.—THOMAS MITCHELL, of Lansingburg, N. Y.—*Improved Machine for Boring Brush Blocks.*—Patent dated February 19, 1861.—Upon the end of the main driving shaft is a worm wheel, for the purpose of securing a feed motion graduated to the velocity of the bits. This worm meshes into gear wheels on each side, upon the upright shafts of which are cranks connected with jointed rods, attached at their outer ends to a block, against which the work to be bored is placed.

Claim.—The feeding apparatus as described, in combination with the series of bits, substantially as and for the purpose set forth.

No. 31,472.—CHARLES MONSON and STILLMAN MOORE, of New Haven, Conn.—*Improvement in Gas-Burners.*—Patent dated February 19, 1861.—This burner consists of two tubes, one of which passes over and is secured to the other in such a manner as to be easily turned, so as to bring the flat or broad side of the flame to any desired position.

Claim.—The use of the double tubes A and B so as to be readily adjusted in their rotary without changing their longitudinal position, when constructed, arranged, and fitted as and for the purpose substantially as described.

No. 31,473.—DANIEL MOORE, of Brooklyn, N. Y.—*Improvement in Fire-Arms.*—Patent dated February 19, 1861.—This invention relates to a manner of constructing the joint between the barrel and the stock, so that they can be turned for introducing the cartridge, or entirely separated when desired. It also relates to a peculiar mechanism for conveying the flanged metallic cartridge into the barrel, or withdrawing the exploded base.

Claim.—First, the gudgeon *c*, provided with a head, and taking the semicircular notch in the projection from the barrel, in combination with the spring *d*, and the ribs and grooves 1 and 2, for the purposes and as specified.

Second, the slide *i*, formed as a fork, and provided with the perforated sole piece 3, and semicircular groove, to take the flanged base of the cartridge, as set forth.

No. 31,474.—PETER MURRAY, of Detroit, Mich.—*Improvement in Steam Engines.*—Patent dated February 19, 1861.—The object of this invention is to admit the superheated and ordinary steam separately to the cylinder, to be mixed therein as required for use, instead of being mixed in the main steam pipe, for the purpose of preventing waste of the superheated steam.

Claim.—Constructing and furnishing the cylinder of the engine with a system of separate induction passages, ports, and valves, by which the superheated and ordinary steam are admitted separately to the cylinders, substantially as and for the purpose specified.

No. 31,475.—LEONARD M. PARKER, of Shirley Village, Mass.—*Improved Fruit-Gatherer.* Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—My improved fruit-picker as made of a series of wires, bent and arranged in the manner and connected with a shank or pole socket, substantially as specified.

No. 31,476.—HIRAM POWERS, of Florence, Italy.—*Improved Punching Machine.*—Patent dated February 19, 1861.—In operating this machine the lever is raised, and the cog engaging with the punch shaft, draws it back. The plate to be punched is then placed in the transverse openings between the socket or die and abutment, and the lever is brought down with force, when the punch shaft is forced forward through the material to be punched.

Claim.—The shoulder *a* and cog *b* of the lever, acting in combination upon the notched shaft No. 3, in which the punch, shaft, or cutting instrument *c* is inserted, operating as specified and described, for punching, stamping, and cutting metal and other hard substances.

No. 31,477.—DANIEL RUGGLES, of Barre, Mass.—*Improvement in Brakes for Sewing Machines.*—Patent dated February 19, 1861.—This invention will be understood by reference to the engraving.

Claim.—The employment of a frictional brake, with suitable levers, and the pin or key *d*, in combination with the driving balance or other rotating wheels, and the table of a sewing machine, substantially as and for the purposes specified.

No. 31,478.—W. C. SALMON and GEORGE F. BLISS, of Placerville, Cal.—*Improved Machine for Upsetting Tire.*—Patent dated February 19, 1861.—The clamping dogs press the tire against the jaws D D′ and retain it upon the bed. The tire in a heated state is placed on the plates, and by the action of the cam on the sector the bed plate B is forced towards the bed plate A′, both being curved, and thus shrinks the tire. A tenon on the bed plate A entering a slot in the bed plate B′ prevents it from being forced upward.

Claim.—The combination of the stationary and movable bed plates A′ and B, their clamping dogs E′ and F, and jaws D and D, as set forth, with the spring G, sector H, and cam J, with its lever J′, all arranged and operating in the manner and for the purposes set forth.

No. 31,479.—GELSTON SANFORD, of New York, N. Y.—*Improvement in Machines for Treating Vegetable Fibre.*—Patent dated February 19, 1861.—The material to be treated is fed between the rollers and exposed to the action of the brushes and the teeth and scrapers upon the belt. When half the fibre is cleansed the action of the rollers and belt is reversed by changing the gear of the pulleys, and the fibre is moved backward out of the machine; the other half is then treated in a similar manner, the extraneous matter being discharged at the opposite end.

Claim.—The arrangement of the feed rollers B B, the brushes, the belts D D, armed alternately with teeth and scrapers, as shown, and the carrying rollers E, the whole being also arranged to operate in reverse directions at will, as set forth.

No. 31,480.—SILAS T. SAVAGE, of Albany, N. Y.—*Improvement in Stoves.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The employment of the base burning chamber B, external case A, and partitions extending from *x* to *x′* and from *z* to *z′*, arranged as represented, whereby an indirect draft is produced around the front, the sides, and the back of the stove, in the manner and for the purpose specified.

No. 31,481.—HORACE G. SCOFIELD, of North Stamford, Conn.—*Improvement in Sewing-Work Holders.*—Patent dated February 19, 1861.—The object of this device is to hold the sewed work so as to allow it to be stretched by the left, while the needle is operated by the right hand, and to hold the work so that it may readily be drawn through on the opposite side. It is designed to be fixed on the knee of the operator or other convenient place.

Claim.—The open-ended buckle C C′ G as a new article of manufacture, when adapted to receive the edge or a fold in the cloth B to allow it to be drawn forward at will and to be introduced and removed, substantially as and for the purpose set forth.

No. 31,482.—JACOB SHAVOR and A. C. CORSE, of Troy, N. Y.—*Improvement in Grid-irons.*—Patent dated February 19, 1861.—This invention consists in the combination of the several parts so that when meats, &c., are broiled therein and thereon, the smoke and gases of the same shall be conducted away and therefrom without arising in the room. The reservoir serves to receive the gravy from the broiling substance.

Claim.—The downward projecting side D′ and the downward projecting side D, in combination with the reservoir *c*, as described and set forth.

No. 31,483.—P. B. SHELDON, of Prattsburg, N. Y.—*Improvement in Roll Blotters.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of the two rollers *a a*, arranged in a suitable holder *b c f*, either with or without the supplementary roller *h*, substantially as and for the purpose specified.

No. 31,484.—JOSIAH SHEPARD, of Columbia, Texas.—*Improvement in Cotton-Scrapers.*—Patent dated February 19, 1861.—The scraping plates, which are turned outward and are capable of adjustment at a greater or less distance apart by means of holes and pivoted rods, are separated sufficiently to allow the cotton plant to pass between them and under the machine without injury on being drawn over the rows. The journalled arms are jointed together at their rear ends by a cross-bar and can be raised from the ground and fastened to the beam by a hook. The plates upon these beams are turned inward so as to gather and throw the earth loosely about the roots of the plants.

Claim.—First, the curved runners C C, arranged and constructed as described, and in combination therewith the scraping plates D D, when attached to the runners by pivoted arms *d d*, brace rods *g g*, and bolts at *c c*, substantially as and for the purposes set forth.

Second, the jointed beams E E, carrying plates *k k k′ k′*, and otherwise constructed and arranged, as and for the purposes specified, when combined with the runners C C.

No. 31,485.—JEHIAL H. SIMONDS, of New York, N. Y.—*Improved Hot-Air Register.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The attaching of the racks D to the slide E at points substantially as shown, so as to admit of the sectors C gearing into the racks D, and at the same time admit of the inner edge of the slide serving as inner bearings for the journals *a* at one end of the valves, as set forth.

No. 31,486.—J. BARTLETT SMITH, of Winfield, N. Y.—*Improvement in Harvesters.*—Patent dated February 19, 1861.—The outer end of the finger-bar is attached to a shoe which has an inclined bar T attached to it by a screw, and to the back part of the shoe a vertical bar U is attached by a screw, said bar having a roller V at its lower end, so that both roller and bar may be readily attached to or detached from the shoe, and either or both be used as circumstances may require.

Claim.—The arrangement of the removable inclined bar T with the shoe S and roller V, as shown and described.

No. 31,487.—WILLIAM H. SMOOTE, of Prince William county, Va., assignor to Himself, FRANKLIN TAYLOR, C. A. NELSON, and MONTREVILLE CORNNELL, of same place.—*Improved Method of Making Wooden Vessels of Staves.*—Patent dated February 19, 1861.—The barrel or cask is formed by securing the staves together by means of a wire passing through holes made edgewise through the staves, a small piece of the wood being removed on the exterior of one stave for clamping the ends of the wire together.

Claim.—Forming barrels, casks, and other vessels of wood without external hoops, by the mode described and set forth and for the purposes mentioned.

No. 31,488.—WILLIAM W. SNOW, of Jersey City, N. J.—*Improvement in Car Wheels.*—Patent dated February 19, 1861.—This invention is explained by the claim and engraving.

Claim.—Uniting the hub and rim of a car wheel by two plates, the front one being corrugated near its perimeter so as to cross the rim or tread in a waved line, and the back plate being convex and uniting with the flange, and the whole constructed substantially as set forth and for the purpose specified.

No. 31,489.—JAMES SPEAR, of Philadelphia, Pa.—*Improvement in Cooking Stoves and Ranges.*—Patent dated February 19, 1861.—The nature of this invention consists in providing a cooking stove or range with a sifting pan in the hearth, in order to sift the ashes as they are raked from the grate or fire chamber, and also in placing a large drawer or reservoir under the sifting pan, in order to contain the sifted ashes. The hearth of the stove or range is so constructed as to enable those using it to remove both the sifted coal and ashes, or either of them, from the hearth of the stove or range without the use of a shovel.

Claim.—The combination of the sifting and ash drawers A and B with the curved or guide plate D, when used in connexion with a stove or range in which the stove extends under the fire grate.

No. 31,490.—P. H. STANDISH, of Pacheco, Cal.—*Improvement in Harvesters.*—Patent dated February 19, 1861.—As the machine is drawn along, the scolloped edge of the driving wheel E bears against the rollers *b b* of the bar H, fixed on the rock-shaft, thus giving it a vibratory movement, and, through the medium of a bar *j* and connecting rod, a reciprocating motion is given to the sickle. The end of the rock-shaft rests in a bearing in the guide I, attached to the main frame, and a wedge *d* retains it in its proper place, said wedge being bent against the spring *f*, and thus allowing a yielding movement of the shaft.

Claim.—The arrangement of the spring *f*, wedge *d*, and guide I, with the frame A, shaft F, pallet-bar H, and scolloped wheel E, in the manner and for the purposes set forth.

No. 31,491.—FRANK J. STEINHAUSER, of Lancaster, Pa.—*Improvement in Snow-Ploughs.*—Patent dated February 19, 1861.—This invention consists in attaching hoop-shaped cutters, or snow-breakers, in the front of the machine, to shafts containing a number of shovels set spirally on each side of the machine, the back part of the same being provided with adjustable toothed or cutting wheels, for the purpose of breaking the ice off the rails.

Claim.—The circular breakers A and shovels B, together with the ice-breakers F and G, as arranged, in combination with the ordinary snow-plough D, for the purpose of removing snow and ice from railway tracks.

No. 31,492.—WILLIAM STEWART, of Philadelphia, Pa.—*Improvement in Mills.*—Patent dated February 19, 1861.—Secured to a vertical shaft is a frustum of a cone, upon which are placed, one over the other, rings or bands, provided on their periphery with teeth or corrugations, the rings being secured to their body, so as to prevent them from turning. Within the conical shell D is secured a series of cast metal rings or bands, each provided with a projection at their outer sides, fitting in a groove in a shell. to prevent their turning. By this

arrangement, the article to be ground passes consecutively through a series of grinding devices, causing the same to be ground in a uniform manner.

Claim.—The construction of the grinder with a series of conical toothed rings or concaves E, placed one above the other within an exterior conical case D, and a series of conical grinding toothed rings C, placed one above the other upon a cone B, the whole arranged and operating in the manner and for the purpose shown and described.

No. 31,493.—JONATHAN R. SUPPLEE, of Bridgeport, Pa.—*Improvement in Radiators.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—Having the openings at the under side of the drum A of the conical or straight pipes B B made larger in proportion to the distance from the cold-air flue F; also similar openings around the sides and ends of the drum, thereby equalizing the draught through all the heating surface, substantially as described.

No. 31,494.—WILLIAM TAYLOR, of Berlin, N. Y.—*Improvement in Guides for Laying Cord.*—Patent dated February 19, 1861.—The object of this invention is to lay the cord between the folds of the linen, where it is stitched at the same time, and it consists of a block having two slots in its upper surface, and firmly screwed to the front part of a sewing machine. In one of the slots is placed one end of a bent arm, having at its other extremity a hook-shaped piece, which is brought near the needle, and provided at its point with a tube, which conducts the cord to the hook. This hook is hinged to the arm so as to admit of being turned at right angles, so that its point lays the cord on either the left or right edge of the centre piece of the shirt bosom. A spring C, bearing against the hook, retains it in position.

Claim.—The hinged cording device, constructed and operating substantially as described, and for the purpose set forth.

No. 31,495.—ENOCH THOMAS, of Beverly, Va.—*Improvement in Presses.*—Patent dated February 19, 1861.—Between two toothed standards are arranged the journal boxes of a shaft which carries a pair of cams. Upon the shaft are hinged collars which permit the boxes to be removed from the standards, thus enabling the shafts to be raised or lowered. Movable followers are placed in succession upon the platform, and, being caught by a hook, are deposited in succession, one above the other, at each revolution of the cam-shaft. The follower being forced down by the cams, is prevented from rising by a retainer, which consists of a collar or band provided with ears, pivoted in boxes, each held between a pair of clamps which permit the descent of the retainer, but prevent it from rising.

Claim.—First, the movable boxes C and collars T, combined with the cam-shaft D and wheels F, in the manner and for the purposes set forth.

Second, the use of the detached followers R, between the cams E and follower H, in the manner and for the purposes set forth.

Third, the combination of the ears J, toothed boxes K, and spring ratchet-clamps L, operating to retain the follower H, as explained.

Fourth, the oil-plates S, interposed between the cams E and followers H or L, for the reduction of friction, as set forth.

No. 31,496.—W. H. TOPHAM, of New Bedford, Mass.—*Improvement in Lamps.*—Patent dated February 19, 1861.—The object of this invention is to supply the flame with a requisite amount of oxygen to support proper combustion, and to present the air to the flame in a warm state. In the upper half of the cap is secured an elastic metal plate, the ends of which project inwardly, which, with a spring on the opposite side of the cap, serves to retain the chimney in position, admitting of the use of chimneys of different size, and also of their expansion by the heat. The plates G are designed to prevent the air from coming in contact with the edges of the flame below the cap, so as to allow the flame to spread the full length of the slot, by which means a small wick may be used.

Claim.—The arrangement of the flanged screw-socket H and disk *c*, with the band *b*, tubes D E F, and cap I, in the manner and for the purpose shown and described.

The employment or use of the double-armed spring K, in combination with the cap I and spring L, in the particular manner shown and described, for the purposes set forth.

The arrangement of the rings or plates G, to extend from the plate *c* to the inner surface of the cone or deflector J, so as to enclose the flame, all in the manner and for the purposes shown and described.

No. 31,497.—E. P. TORREY, of New York, N. Y.—*Improvement in Ice-Cream Freezers.*—Patent dated February 19, 1861.—An agitator is attached to the rotating shaft of the can, and consists of a horizontal arm, from which a plate C extends in a vertical direction, which, as the shaft is rotated, sweeps through the freezing mixture, thus effectually mixing it and hastening the freezing process.

Claim.—The arrangement of a rotary agitator F, or its equivalent, in combination with a can A and tub D of an ice-cream freezer, constructed and operating substantially in the manner and for the purpose specified.

No. 31,498.—J. H. TOTMAN, of Plattsburg, N. Y.—*Improved Method of Hanging and Securing Reciprocating Mill-Saws.*—Patent dated February 19, 1861.—The rear gauge has a lip, bent upon its free edge at right angles with its vertical side, through which lip are made cuts for holding the saw in place. In the front gauge are vertical cuts, through which the saws pass. The upper and lower portion of the gate are formed of two bars, between which pass hooks which take hold of pins upon the saws. The hooks are held in position by keys, on withdrawing which the saws may separately be loosened and removed for sharpening.

Claim.—The employment of the front gauge *c*, the rear gauge *c'*, the hook *d*, and key *e*, when these devices are constructed and operated in the manner and for the purpose specified.

No. 31,499.—JAMES S. WETHERED and SELIM E. WOODWORTH, of San Francisco, Cal.—*Improved Process for treating the ores of Precious Metals.*—Patent dated February 19, 1861.—The claim will explain the nature of the invention.

Claim.—The above-described process of treating ores, consisting of the use of steam in combination with a mixture of pulverized ore, carbon, a solution of salt, soda-ash, and mercury, in the manner and for the purpose set forth.

No. 31,500.—SETH H. WHITMORE, of Cincinnati, O.—*Improvement in Steam Engines.*—Patent dated February 19, 1861.—This invention consists of a cut-off, which is brought directly under the control of the governing power, so that the admission of steam shall correspond to and be regulated by the slightest variation of the speed of the engine.

Claim.—First, the above-described apparatus, consisting of the sliding bar, the catches, hooks, plungers or lifters, and rod 13, combined and arranged substantially as described, for operating the cut-off and exhaust valves of a steam engine.

Second, the application to the above apparatus, arranged substantially as described, of an automatic governor operating through the rod 13, to trip the cut-off valves at any desirable point in the stroke.

Third, the reciprocating bar 11, carrying the stationary catches for opening the valves, and by its return movement opening the exhaust by impinging against the cranks 6 6, substantially as described.

Fourth, the plungers with their cylinders or slotted arms jointed to the rod 13, for disengaging the hooks 8 8 from the catches 9 9, constructed substantially as described.

Fifth, the hooks 8 8, when combined with the cranks 6 6 and operating in connexion with the catches 9 9, substantially as described.

Sixth, the independent adjustable valve-seat 19 19 19, in connexion with the oscillating valves 1 1, substantially as described.

Seventh, the hollow-throated valves 1 1, when combined with the cut-off arrangement described in the first claim.

No. 31,501.—JOHN WHITTEN, of Boston, Mass.—*Improvement in Fracture Apparatus.*—Patent dated February 19, 1861.—The calf and thigh-rests B C are hinged together end to end, and the thigh-piece is hinged to the end of the platform A. Struts operating in ratchets on the platform support the calf and the thigh-rests at any angle, so as to admit of bending the leg of the patient. The foot-piece is attached to screws moving in the slide B C, between the posts *c* and at the end of the calf-piece. Both rests are provided with hinged sides, which are retained by a button. At the end of the thigh-rest is a slide provided with slotted arms, which slide in recesses in the thigh-rest. Screws, passed through the slot, retain the slide in any position.

Claim.—An improved splint as made not only with thigh and calf rests B C hinged together, but with a foot-piece H and straining screws, and an adjustable thigh-slide L and crotch-cushion M applied to the two rests, substantially in manner and so as to be capable of operating as described.

No. 31,502.—R. A. WILDER, of Cressona, Pa.—*Improved Machine for Breaking Coal.*—Patent dated February 19, 1861.—This invention consists in the use of one or more toothed disks, so arranged in relation to the hopper as to form one of the sides of the hopper, and working in connexion with a retaining device that is also a part of the hopper, so that the coal shall all be broken to a uniform size before it can escape from the hopper.

Claim.—First, so constructing and arranging a rotating toothed disk in a coal-breaking machine as that it shall serve the purpose of a coal-breaker as well as form one of the sides of the hopper into which the coal to be broken is thrown, substantially as described.

Also, in combination with a rotating toothed disk, forming one side of the hopper, a perforated plate or plates F, forming the bottom of said hopper, substantially as described.

Also, hinging the bottom of the hopper F at its middle and adjusting it at its ends, for the purpose of passing coal to or from the centre, or to or from the larger and smaller openings in it, so as to break the coal of greater or less sizes, substantially as described.

Also, in combination with the rotating disk and the perforated bottom, the curved shroudings E, as and for the purpose described.

Also, constructing and operating a coal-breaking machine so that the teeth or knives of

one rotated vertical disk shall pass the teeth or knives of the other rotated vertical disk in opposite directions, so that they may strike the coal that comes between them on opposite sides at the same moment, for the purpose of cracking the coal into pieces, and preventing the waste by crushing or pulverizing, substantially as described.

No. 31,503.—FREDERICK WILFORD, of Eagle, Wis.—*Improved Apparatus for Walling Wells, Cisterns, &c., with Grout.*—Patent dated February 19, 1861.—This invention consists of a cylinder constructed in two parts, which are hinged together longitudinally, and provided with a hinged or swinging stave and extension brace or stretcher to hold it in position. When in use, it is placed in the bottom of the well, and the space around it filled with grout, which is allowed to become set or hardened. The extension braces are then sprung upward, when the movable stave will be drawn inward, and the two halves of the cylinder will collapse. It is then drawn up to near the top of the grout, sprung out again, and the operation repeated until the wall is completed to the top of the well.

Claim.—First, a hollow cylinder, to be constructed in two main parts and hinged together, in combination with the movable or swinging stave and the stretchers or extension braces, to be constructed and operated substantially as described and set forth.

Second, the movable or swinging stave in combination with the stretchers or extension braces and connecting rod, the whole to be constructed and operated substantially as described and set forth.

No. 31,504.—WILLIAM T. WILLIAMS, of New York, N. Y.—*Improvement in Animal Traps.*—Patent dated February 19, 1861.—Underneath the swinging flaps forming the top of the box are the supports *c c*, which support the flaps in a horizontal position. The bait-hook is attached to the ends of the levers *f f*, and on pulling the bait the levers press the supports outward, which causes the flap to fall. Under the flaps is a partition of two inclined sides in form of a hopper, having the bottom closed by a weighted valve, which on being opened admits the animals into a receptacle below.

Claim.—The flaps *d d* and levers *f f*, in combination with the supports *c c*, in the manner and for the purposes specified.

Also, the valve *c*, in combination with the flaps *d d*, and supports *e e*, acting in connexion with the receptacle *a*, as and for the purposes set forth.

No. 31,505.—CHARLES WILSON, of Brooklyn, N. Y.—*Improvement in Tightening Ropes on Cotton Bales.*—Patent dated February 19, 1861.—Placed loosely upon a shaft is a collar, one end of which is enlarged and made internally conical. The collar is provided with a rope, and on the other end of the shaft is a sliding cone, which is made to engage with the collar by means of the lever hung below the shaft. The rope from the collar is attached to the rope on a bale, and the action of a windlass serves to tighten the rope and compress the bale.

Claim.—The arrangement of the windlass C and attached hollow cone D with the sliding cone F, weighted lever I, fork G, collar C, and shaft B, in the manner and for the purposes shown and described.

No. 31,506.—A. H. WOOD, of Boston, Mass.—*Improvement in Gas-Burner Regulator.*—Patent dated February 19, 1861.—In the pipe connecting the burner and entrance pipe is a chamber which forms the seat for a throttle-valve, having in it a basin for the reception of the condensed tarry matters, and this valve closes the opening admitting gas to the burner. The removable cap is for the purpose of allowing the valve to be removed and cleaned.

Claim.—A regulator for gas fixtures, gas-burners, &c., constructed and arranged substantially as described, so as to constitute not only a throttle-valve, but also a receptacle or basin, susceptible of removal for cleansing, for receiving the condensed matters or tarry products evolved from the gas.

No. 31,507.—DAVIS B. WOODWARD, of Ercildoun, Pa.—*Improvement in Rakes.*—Patent dated February 19, 1861.—The frame to which the rake teeth are attached is hung loosely upon the axle, to allow of a rocking or tilting motion. When the accumulated hay is to be discharged from the rake teeth, a bar is brought in contact with ratchet teeth by means of the lever, which depresses the front part of the frame, and consequently raises the teeth in the rear.

Claim.—The rocking frame A1, having the teeth *i i i i* applied to it in the manner described, in combination with the rock-shaft O, cam wheels D D, bar B, and ratchet wheels A2 A2, these several parts being constructed and arranged for joint operation, in the manner and for the purposes specified.

No. 31,508.—PHILIP H. WOOLSEY, of Andes, N. Y.—*Improvement in Feeding Tapering Lumber to Rotary Planers.*—Patent dated February 19, 1861.—The swinging frame is provided with a yielding joint at the points of attachment thereto of the journals of the second feed-roller, whereby in planing cuneate forms whose sides have a much greater angle between them than those of shingles the plane of motion of the revolving cutter is kept more perfectly

in the plane of the surface of the wedge which, whilst passing through the machine, is being operated on thereby, and a more even surface produced thereon.

Claim.—Providing the swinging or moving frame E with a yielding joint at E′, the same operating therewith substantially in the manner described and for the purpose specified.

No. 31,509.—ARCALOUS WYCKOFF, of Elmira, N. Y.—*Improved Machine for Cutting Wooden Troughs.*—Patent dated February 19, 1861.—Upon a vertical shaft are attached rotary edge cutters or trimmers, the upper ones cutting the upper side of the trough, and the lower ones trimming the edges, so as to insure a uniform width to each. The cylindrical cutters consist of annular heads, provided with a series of cutting edges or lips arranged at equal distances around the annulus, with spaces or throats for the passage of chips. Immediately behind the cutters are placed wings or flanges, projecting from the cylinder an equal distance with the cutters, for clearing the chips out from the kerf.

Claim.—The combination and arrangement of two annular cutters or cutting cylinders B C, one being of larger diameter than the other, and both cutting concentrically, for the purpose of forming a succession of gutters or eaves troughs, finished inside and outside from each piece of plank or scantling, the outer portion of one being taken from the core of the next, while a crescent-shaped piece is saved between the kerfs of the two cutters to be utilized, substantially as specified.

Also, in combination with the described cylindrical cutters B C, edge-cutters and trimmers *e e* and *f f*, arranged substantially in the manner and for the purposes shown and described.

Also, the arrangement of the wings or flanges *d d*, extending back upon the cutting cylinders from the heels of the cutting edges *i i*, in combination with the said cutting edges, so as to keep the same and the throats between them immediately and continually unobstructed by the chips as fast as formed, substantially as specified.

No. 31,510.—JOHN E. ATWOOD, of Mansfield Centre, and LEWIS LEIGH, of Seymour, Conn., assignors to Themselves, J. E. ATWOOD, of said Mansfield Centre, VERNON A. MESSINGER, of Boston, and VIRGIL A. MESSINGER, of Canton, Mass.—*Improvement in Machines for Sorting Silk Thread.*—Patent dated February 19, 1861.—The invention consists in certain devices constituting a stop motion employed in combination with a bobbin on which the thread is taken up from the gauging apparatus, for the purpose of stopping the thread passing through that apparatus on the occurrence of a variation in size beyond certain limits, so that by the use of two or more bobbins each to take up all the thread between certain limits, and the changing of one for another whenever the stop motion acts, the sorting into as many thicknesses between certain limits as may be desired is effected.

Claim.—First, the stop motion, consisting of the pins *l l′* in the indicator D2, the notched lever L, and the lever M, the whole applied and operating substantially as described, in combination with each other and with the winding bobbin and its driving apparatus.

Second, the screw *d* and stop *e*, applied in combination with the lever D2, substantially as and for the purpose specified.

Third, the adjusting screw E, applied and operating in combination with the lowest of the levers carrying the gauging rollers, substantially as and for the purpose set forth.

No. 31,511.—CHARLES W. CAHOON, of Portland, Me., assignor to JAMES B. CAHOON, of said Portland.—*Improvement in Lamps.*—Patent dated February 19, 1861.—To a projection from the upper part of the handle is pivoted a thumb-lever, to which is attached a broad ring, fitting over the upper end of the thimble of the burner. This ring supports a chimney, and has also connected to it a chimney guard, which consists of a series of wires projecting upward, with a ring connecting their upper parts. Underneath the thumb-lever is placed a spring, which keeps the latter in position, and upon the upper part is a guard to prevent the thumb from coming in contact with the heated chimney. By depressing the lever the chimney is removed to permit access to the burner. In one side of the metal lamp is secured a glass plate, for the purpose of ascertaining the amount of fluid in the lamp.

Claim.—The combination of chimney fastenings with a thumb-lever, substantially as described, so that the chimney may be withdrawn by pressure upon the lever.

Also, the combination of a guard with the thumb-lever, the said guard being located between the chimney and that end of the lever to which pressure is applied, substantially as described.

Also, the combination of a spring with a thumb-lever fitted with chimney fastenings, substantially as described.

Also, the combination of a chimney-guard with a thumb-lever, substantially as described.

Also, the combination of an opaque lamp body with a transparent plate, substantially as described.

No. 31,512.—JOHN HENRY GOULD, of Philadelphia, Pa., assignor to HENRY E. WALLACE.—*Improvement in Packing for Steam Engines.*—Patent dated February 19, 1861.—The alloy used in this composition consists of lead, antimony, block tin, and bismuth, fused together and thoroughly incorporated. Two half cylinders, consisting of the alloy, are placed upon the piston rod; each end of the cylinder has a concave space and raised flange to form

boxes for the joint. An India-rubber ring is placed around the alloy, so as to press the two half cylinders around the rod.

Claim.—The application of India-rubber, steel springs, or other elastic substances, in combination with the alloy, the composition of which is given above, in the manner and form set forth, to produce a steam-tight joint.

No. 31,513.—D. F. HAASZ, of Philadelphia, Pa., assignor to Himself and THOMAS NASH, of said Philadelphia.—*Improvement in Apparatus for Ascertaining the Fares on Public Conveyances.*—Patent dated February 19, 1861.—This invention consists of a box having two compartments communicating with each other by a zigzag passage, the lower end of which is furnished with a valve and shield, the box having a sliding door, and arranged so as to afford a receptacle for a number of balls, one of which is dropped into the box on the payment of a fare, so as to enable a person at the end of the route to ascertain the number of fares collected on the route.

Claim.—A box A, its two compartments C and D, the zigzag passage *a*, valve *e*, shield *f*, and the sliding door B, or its equivalent, the whole being arranged as and for the purpose set forth.

No. 31,514.—GEORGE HERDTFELDER, of New York, N. Y., assignor to Himself and CHARLES LAMMRICH, of said New York.—*Improved Underground Receptacle for Waste Matter.*—Patent dated February 19, 1861.—This invention consists of a box sunk into the ground level with the surface of the street or sidewalk, and provided with covers sufficiently strong for the sustaining of persons or bodies passing; and to this box is applied a drain or pipe to convey away, either into the soil or a sewer, the liquid matter that may be thrown into said receptacle.

Claim.—The receptacle for ashes, garbage, &c., formed of the box *c* and covers *f*, in combination with the chamber *g* and pipe *i*, for the purpose and as specified.

No. 31,515.—ISAAC H. HOBBS, of Philadelphia, Pa., assignor to Himself and WILLIAM H. CLARKE, of said Philadelphia.—*Improvement in Ruling Guides for Fountain Pens.*—Patent dated February 19, 1861.—The pen is provided with an adjustable tongue, having a lateral projection or guide on one side, whereby, in ruling with the pen, the ink is prevented from running into contact with the ruler, and thus blotting the paper.

Claim.—The application to a fountain pen of the lateral projection or ruling guide *g*, the same being constructed and applied to an adjustable tongue C, so as to operate substantially in the manner and for the purpose specified.

No. 31,516.—L. P. MARA, of New York, N. Y., assignor to JOHN B. MURRAY, of said New York.—*Improvement in Newspaper Wrappers.*—Patent dated February 19, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—Combining with a newspaper wrapper a dried marginal coating of gum acacia or other suitable adhesive material, substantially as described.

No. 31,517.—GEORGE W. MCMINN, of Covington, Ky., assignor to Himself and R. T. REILY, of Cincinnati, Ohio.—*Improvement in Metallic Springs.*—Patent dated February 19, 1861.—The spring is formed with alternate bosses and depressions, instead of the usual bolt and perforations, for the purpose of increasing its strength, and allowing a freer play within each other.

Claim.—First, forming the leaves of a metallic spring with alternate bosses B and depressions C, adapted to rest one within another, in the manner and for the purposes set forth.

Second, in the described combination with the above, the clamp D E, adapted to confine or release the parts of the spring, in the manner set forth.

No. 31,518.—HERRMAN MÜLLER and CHARLES MAJER, of New York, N. Y., assignors to Themselves, FRITZ KASEFANG, and LOUIS BEAUCHE, of said New York.—*Improvement in Cigar Machines.*—Patent dated February 19, 1861.—The apparatus designed for the filling process is constructed of rollers and a concave, in such a manner that the leaf tobacco placed in the hollow of these parts will be rolled up and form a proper core by the revolution of the rollers. The rolling of the outer leaf around the core is effected by means of a concave surface, rollers, a fork and plate, so that when the core is placed in the hollow formed by the concave surface and the rollers, and when the strip of the outer leaf is held between the hollow and the fork, the said strip will be rolled or wound around the core by the rotation of the rollers and by the passing of the plate over the cigar.

Claim.—First, the fixed concave surface G, in combination with the rollers E and F, closing roller D, and knives *r r*, the whole being constructed and operated in the manner and for the purpose substantially as described.

Second, the fixed concave surface P, in combination with the two side rollers N and O, the fork L, and the sliding plate M, the whole being constructed and operated in the manner and for the purpose substantially as set forth.

Third, the sliding board M, with its rack R, and its soft cover *m*, for the rolling of the outer leaf, substantially as described.

Fourth, the fork L, with its spring *l*, fitting over the cigar during the rolling up of the outer leaf, substantially as described.

No. 31,519.—WILLIAM TURNER, of Phœnixville, Pa., assignor to JOSEPH Y. NORTON and J. PHILLIPS, of said Phœnixville.—*Lubricating Compound.*—Patent dated February 19, 1861.—This invention consists in the use of a compound of sperm, lard, or elephant oil, water, and the chloride of lime and bicarbonate of soda.

Claim.—The use of this compound for lubricating purposes.

No. 31,520.—THOMAS H. DODGE, of Washington, D. C.—*Improvement in Mowing Machines.*—Patent dated February 19, 1861.—One end of a cord or chain is attached to the drag bar or shoe, and the other end to one end of a lever, fulcrumed to a post or standard attached to the inner side of the machine, the opposite end of this lever extending back so as to be under control of the driver.

Claim.—First, the combination with the drag bar or shoe and heel of the finger-beam of E. Ball's "Ohio Mower," patented December 1, 1857, of a lifting lever and cord or chain, whereby the driver can cause the heel of the finger-beam to rest very lightly on the stubble or ground, or be raised entirely above both.

Second, extending the drag-bar back so as to permit the finger-beam to fold over in rear of the driver's seat, in combination with a rear extension piece for its support, substantially as described.

No. 31,521.—GEORGE C. ALBAUGH, of Louisville, Ky.—*Improvement in Manufacture of Cow Bells.*—Patent dated February 26, 1861.—The edges of one plate are hammered or stamped so as to form a rebate, into which lap the edges of the other plate, forming a flush joint, which is secured by rivets. When this bell is brazed the metal will be retained between the lapped portions of the plates, and form a perfectly tight joint.

Claim.—The method, herein shown and described, of retaining the melted metal between the lapped portions of the plates during the brazing operation, all as set forth.

No. 31,522.—SAMUEL ANDRESS, of Chesaning, Mich.—*Improvement in Transmitting Motion.*—Patent dated February 26, 1861.—As the ends of the rods are secured to the fixed standard, if the lever D be placed in a position to bring the rods as nearly as possible to a position of parallelism with the shaft, the latter will be extended to the end of its stroke, and by moving the lever to the opposite direction the shaft will be forcibly drawn back to the extremity of its stroke in that direction.

Claim.—The combination of the shaft A *a*, standards B C, oscillating lever D, and rods E E′, (working at both ends in ball and socket joints,) the said parts being constructed and operating in the manner and for the purposes set forth.

No. 31,523.—Suspended.

No. 31,524.—LEWIS BRADLEY, of Hartford, Conn.—*Improvement in Compensating Pendulums.*—Patent dated February 26, 1861.—This invention consists in attaching a pendulum to a frame constructed of metal of high expansive properties, in such a manner that the expansion of the frame in a direction opposite to the expansion of the pendulum shall neutralize the increased length given to the pendulum by the expansion of its other parts and attachments, and thus keep its length the same in all temperatures, the spring on the upper part of the pendulum being drawn through the slotted pin as the frame expands.

Claim.—The slotted pin D and metal frame E, or their equivalents, when used in the manner and for the purpose substantially as described.

No. 31,525.—NATHAN BRAND, of Leonardsville, N. Y.—*Improved Machine for the Manufacture of Hoe Blanks.*—Patent dated February 26, 1861.—The rollers upon which the dies are placed are vibrated by means of a crank. The ends of the rollers project beyond the standards, and in the lower roller is a score, opposite to which is a forked guide to receive the shank of the hoe blank. A bar connected by links to projections on the rollers traverses in scores on the standards, and upon this bar is a curved plate to receive the shank of the hoe.

Claim.—In combination with vibrating dies for making hoes, a traversing guide, constructed as described, to hold and traverse the shank of the hoe, rolled substantially as described.

No. 31,526.—W. W. BURSON, of Yates City, Ill.—*Improvement in Grain-binding Machines.*—Patent dated February 26, 1861.—This invention consists of an apparatus to be placed upon the platform of a reaping machine, and by which the binding of a gavel of grain is effected by certain devices. The invention does not admit of a brief description.

Claim.—First, the combination of the jointed arm A A″, pitman C, rack S, segments P P, and pinion O, operating substantially as and for the purpose set forth.

Second, the combination of the cord W, weight V, slide J, and arm A A'', substantially as described.

Third, the platform K, constructed with opening M, said opening provided with the spikes *d'' d'' d''*, and guide *a*, substantially as described.

Fourth, the hinged jaws *c c'*, shield or guard *k*, and the concave H, operating substantially as set forth.

Fifth, the combination of lever S and receptacle *h*, constructed substantially as described.

Sixth, the lever *y*, with spur *n*, operating for the purpose of opening and closing the twisting jaws *c c'*, as described.

No. 31,527.—MARCUS L. BYRN and GEORGE CLARK, of New York.—*Improvement in Fruit-Gatherers.*—Patent dated February 26, 1861.—The bent knife works in the slots in the fork, and is operated by the cord *f*, an India-rubber spring acting to draw back the knife.

Claim.—The fork *d* and knife *e*, constructed and acting as specified, in combination with the pole *a*, basket *b*, and pipe *c*, as set forth.

No. 31,528.—C. CARTER, of Franklin Centre, Iowa.—*Improved Washing Machine.*—Patent dated February 26, 1861.—The rotating arbor is journaled in a bar across the top of the tub, and that portion below the cross-bar is square, thus forming a shoulder which prevents the longitudinal play of the arbor. This lower part is also provided with slots, in which the arms of the agitator play. In working the machine a rotatory reciprocating motion is given to the agitator, and the clothes are rubbed between the corrugated sides and bottom of the tub and the floating balls.

Claim.—The arrangement of the vertical rotary arbor B with slots *e* and *g*, in combination with the rising and falling cross-armed agitator D, tub A, and balls E, constructed and operating in the manner and for the purpose specified.

No. 31,529.—ROBERT CASSADY and DANIEL CLARK, of Buffalo, N. Y.—*Improvement in Snow-Ploughs.*—Patent dated February 26, 1861.—This invention consists in combining with a cutter of suitable shape, applied to the end of an adjustable lever, a pivoted shoe, which serves as a guide to the cutter to keep the same in proper relation to the surface which it is intended to scrape. With the shoe and cutter is combined an adjustable knife, which precedes the shoe and cutter, and forms a channel for the shoe. In the rear of, and arranged in the same vertical plane as the cutter-bars, are yielding brooms, made of wire, for sweeping and scraping the loosened ice from the rails.

Claim.—First, the cutter-bars E E, with their cutters *d d* and shoes *e e*, arranged as described, in combination with the adjustable cutter-bars D D, which form the channels for the shoes *e e*, substantially as set forth.

Second, in combination with the above-specified parts, the adjustable yielding brooms *l l*, arranged in the relation to said parts, and operating substantially as set forth.

No. 31,530.—JOHN A. CLUXTON, of Bentonville, Ohio.—*Improvement in Grain Measurer and Register.*—Patent dated February 26, 1861.—The grain is conducted through a trough into the hopper in a regular continuous stream, and the board C, with its cells, is rotated by means of handles. Each cell is filled as it is brought under the hopper, and its contents discharged as it is brought over a spout. As the cell-board turns, motion is given to a hand or pointer *f* by means of a shaft and a train of wheel-work, and the hand points to figures which indicate the amount of grain measured.

Claim.—A grain measurer and register composed of a measuring wheel or board C, having cells *a a*, disks B G, spouts F D, shafts F P, and indicating or registering wheels and pointer *f*, when said parts are arranged, constructed, and operate together in the manner and for the purpose shown and described.

No. 31,531.—CICERO COMSTOCK, of Milwaukie, Wis.—*Improvement in Rotary Cultivators.*—Patent dated February 26, 1861.—This invention relates to that class of machine ploughs, or spading machines, designed to be drawn by horses, or to be put in motion by steam or any mechanical power, wherein a series of spades, forks, or other equivalent means for breaking up and elevating the soil for cultivation have all the necessary movements given to them by the machine, when in motion, for entering the soil, elevating and turning it over, and leaving it in its proper condition for the usual further steps of cultivation.

Claim.—First, the stationary cam, having the friction wheel forming a part of the groove, and arranged in relation to the other parts of the machine as shown.

Second, the guide-levers, in combination with the stops, as and for the purpose herein set forth.

Third, the spiral threads and grooves, the slots in the wheels or heads, and the cam groove for giving the motions of the spades or forks, the whole being constructed and arranged in the manner as set forth.

No. 31,532.—RUFUS J. CONVERSE, of Coventry, N. Y.—*Improved Washing Machine.*—Patent dated February 26, 1861.—The nature of this invention consists in having a flexible

or movable washboard worked by jointed double levers and springs, so that it may be immersed, to wet the clothes by the action of raising the rubber or lathe, and when it is hitched on pins the rubbing-board becomes stationary in a proper position to soap the clothes and rub the streaks out by hand in the ordinary manner.

Claim.—The movable and flexible washboard, worked by joints and double levers, substantially in the manner as and for the purposes set forth.

No. 31,533.—AUGUSTUS B. DAVIS, of Philadelphia, Pa.—*Improvement in Weighing Apparatus.*—Patent dated February 26, 1861.—This invention relates to improvements in weighing apparatus used in connexion with canal locks. The main object of these improvements is to produce a scale which can readily be applied to any lock without forming recesses in the walls and cutting or otherwise wounding the masonry, thereby reducing the labor and cost in erecting the scale.

Claim.—A series of weighing frames, each having the levers I and K, and bell-crank lever M, connected together and operating as set forth, when the said frames are so arranged along the opposite side-walls of a lock that the said levers I shall be at right angles to and partly overhang the said walls, as and for the purposes described.

No. 31,534.—AUGUSTUS B. DAVIS, of Philadelphia, Pa.—*Improvement in Scale Beams.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention, the object being to dispense with the usual long beam, and render the apparatus more compact.

Claim.—A weighing apparatus composed of an upper and lower graduated beam, when the lower beam is suspended at or near both its ends to the upper beam, and when it is entirely dependent upon the said upper beam for its support and for the proper performance of its functions, as and for the purpose set forth.

No. 31,535.—PETER FISCHER, of Fort Adams, Miss.—*Improvement in Cross-cut Sawing Machines.*—Patent dated February 26, 1861.—The "driving gearing bar" is pivoted to the upper part of one of the posts of the main frame, and to the lower end of the bar is secured a saw. Motion is given to the bar by means of a pitman and crank connected with the gear wheels. The frame is supported at one side upon legs, so as to admit of vertical adjustment, and on the other side upon inclined legs provided with rollers at their lower ends.

Claim.—The arrangement of the said driving gearing bar *o* and saw B, with the adjustable leg *c* and legs *c'*, in the manner and for the purpose shown and described.

No. 31,536.—NELSON FORD, of Cambridge, Wis.—*Improvement in Seeding Machines.*—Patent dated February 26, 1861.—Within the hopper is a shaft, provided with a series of short arms, working directly over slots in the bottom of the hopper. Below the hopper, and on a line with each slot, are placed wheels having their peripheries grooved circumferentially. The device is adapted for sowing seed broadcast or in drills.

Claim.—The combination of the revolving arms *a* of shaft G within the hopper F, in connexion with the slots or openings *b* in the bottom of the hopper, and the wheels H' below the hopper, the wheels being provided with grooved peripheries, and all arranged substantially as and for the purpose set forth.

No. 31,537.—DANIEL FOREMAN, of Navarre, Ohio.—*Improvement in Cross-cut Sawing Machines.*—Patent dated February 26, 1861.—Motion being given to the saw by means of the crank, a stick of wood is placed in the forks of the holders, when the weight *a* instantly forces the lever down, thus drawing the wood in contact with the saw. The claw is forced down upon the stick of wood, and effectually prevents it from rocking. The supports, or holders, are secured to the rocking shaft.

Claim.—First, the combination of weighted lever *d*, claw *b*, and support *f*, for the purpose of clamping the wood, substantially as described.

Second, the combination of the above devices with the rocking axle *e*, for the purpose of feeding the wood to saw, substantially as described.

No. 31,538.—LAWRENCE F. FRAZEE, of Tottenville, N. Y.—*Improved Clothes Frame.*—Patent dated February 26, 1861.—This invention consists of a series of folding arms pivoted together and crossing each other at their centres, and connected at their ends and centres by cross pieces, upon which the clothes are hung. One end of the lower series is pivoted to the bottom frame, and the opposite end moves upon the frame, which causes the latter to rise, when it is secured at any desired height by means of a ratcheted bar and catch.

Claim.—The arrangement of the frame 1 2 3 4 5, sliding bar 9, or its equivalent arms 6 8 14 15, &c., bars or rods 16 or 16 and 17, catch 18, and cranked shaft or rod 19, substantially as described and for the purpose set forth.

No. 31,539.—PETER HANES, of Edina, Miss.—*Improved Shoemaker's Clamp.*—Patent dated February 26, 1861.—This invention consists in jointing one of the clamping jaws to

the fixed jaw, and operating this movable jaw by means of a lever, having its fulcrum in the fixed jaw.

Claim.—The arrangement of the arm or bearing D, roller *b*, and band C, with the jaws A B and lever G, as shown and described.

No. 31,540.—L. P. HARRIS, of Mansfield, Ohio.—*Improvement in Binding Attachment to Harvesters.*—Patent dated February 26, 1861.—The nature of this invention consists in the construction and arrangement of machinery by which grain may be rapidly bound by hand power or by horse power, or by whatever power is employed in propelling the reaper.

Claim.—First, the arrangement of the standards A *a*, in combination with the circular tops B B, substantially as described and for the purpose set forth.

Second, the arrangement of the bars C D and *e*, composing the arm I, with the standards and circular slots H, substantially as described and for purposes set forth.

Third, the arrangement of mechanism for operating the bars C and D, for expanding and closing the arm I, substantially as described.

Fourth, the arrangement of the angular spring 13, shears 11, and springs 14, substantially as described and for the purposes set forth.

Fifth, the arrangement of the drivers *b l* and *r*, spiral spring 5 6 and 7, and wheel *y*, substantially as set forth.

No. 31,541.—B. R. HATHAWAY, of Mormon Island, Cal.—*Improved Lifter for Stove Covers.*—Patent dated February 26, 1861.—This invention consists in the employment of a curved tongue and a lifting prong combined and attached to a suitable handle in such a manner that the tongue will serve in conjunction with the prong to lift the bridge-plate and two circular covers together, or singly, if desired.

Claim.—The lifter of stove plates, as described, consisting of a curved prong B and tongue C, combined and secured into the end of a suitable handle, as set forth.

No. 31,542.—HENRY HOFFMAN, of New York, N. Y.—*Improvement in Steam Boilers.*—Patent dated February 26, 1861.—The combustion chamber is connected with the fire-box by perpendicular flues, the spaces between the flues being in connexion with the water space of the boiler, and the water circulating freely around these flues. The tubes E are connected to the tubes *b*, and serve as braces between the top plate of the fire-box and the tube-sheet C. The legs G G extend down *from* the water space into the combustion chamber. The horizontal flues conduct the products of combustion off from the combustion chamber. By these devices the water is exposed more directly to the heat of the furnace.

Claim.—The particular arrangement of the legs G G, combustion chamber *c*, and tubes E, with the tube-sheets B C and flues D K, in the manner shown and described.

No. 31,543.—PROSPER HUMBOLT, of Boston, Mass.—*Improved Chronometer Escapement.* Patent dated February 26, 1861.—This invention consists in applying a detent, having two locking pallets, to operate in combination with two impulse pallets on the cylinder attached to the balance, so that the balance receives a double impulse in each complete vibration, that is to say, one impulse in each direction from each tooth of the 'scape wheel, and that each tooth rests twice in each vibration of the balance back and forth, viz., once against each locking pallet.

Claim.—The combination with the two cylindro-pallets *d e*, attached to the balance of a detent D, with two locking pallets *f g*, the whole arranged to operate substantially as described, for the purpose of giving an impulse to the balance in each direction, and locking each tooth of the 'scape wheel twice during each vibration of the balance back and forth.

No. 31,544.—Cancelled.

No. 31,545.—CHARLES KIRCHHOF, of New York, N. Y.—*Improved Method of Integrating Inconstant Electric Currents.*—Patent dated February 26, 1861.—The inventor says: "I have invented an entirely new method of gathering, encompassing, retaining, and regenerating electricity produced in any way whatsoever, or by any source or generator, and also of transforming the short and inconstant electric impulses or currents to a whole which is as constant and identical as that produced in any other way, and which may be used at pleasure for the same purposes as any other electric current would or might be used."

Claim.—First, the device called "regenerator," arranged in such manner as to operate on the principles and in the manner as stated.

Second, the arrangements, construction, and devices called "translator," and the improvements made for opening and closing the circuits with precision, and for conducting and interrupting the charging and discharged currents as desired, the said translator and improvements to be applied and operated as described.

Third, the combination of said arrangements and devices mentioned in the preceding claim, with the regenerator, as well as with the polarization apparatus.

No. 31,546.—BERNARD LAUTH, of Pittsburg, Pa.—*Improvement in Polishing Iron Bars and Rods.*—Patent dated February 26, 1861.—The bars, rods, sheets, or plates of metal being

first drawn to nearly their size, are subjected to the acid bath until the scale is loosened and removed. The surface is thus left bright, but minutely honeycombed. They are then passed between polishing rollers constructed of chilled iron and having smooth surfaces.

Claim.—As a new article of manufacture, the production of polished bars, rods, plates, or sheets of iron or steel, by passing them cold between rollers, after they have been subjected to the acid bath to remove the scale, substantially as described.

No. 31,547.—WILLIAM A. LIGHTHALL, of New York, N. Y.—*Improved Refrigerator for Cooling the Condensing Water and Condensed Steam of Steam Engines.*—Patent dated February 26, 1861.—This invention consists in carrying the cooling water directly through a series of small tubes, while the injection water and water of condensation is caused to pass over and in contact with the exterior surface of the tubes, so as to be cooled down to the temperature of the cooling water before it enters the condenser to be reused in condensing the exhaust steam from the engine. The division plates are arranged on each side of the diaphragm, so that the water has to pass over and under each one alternately, thus preventing the hot water from rising to the top of the vessel. The chest or trap is located at the bottom of the further end of the shell, at the point where the current of water from the first compartment is displaced to pass beneath the first division plates of the second compartment, for the purpose of collecting the grease or oil held in suspension by the water from the inlet pipe.

Claim.—First, the diaphragm plate E, in combination with the shell A and tubes D, for the purpose of dividing the interior of the apparatus into compartments, as set forth.

Second, the inlet pipe G and exit pipe G', located and arranged in relation to the shell A, tubes D, and diaphragm plate E, as described and for the purpose set forth.

Third, the division plates H and J, arranged as described, in combination with the diaphragm plate E, for the purposes named.

Fourth, the chest or trap K, arranged in relation to the shell A and division plates H and J, as and for the purpose described.

No. 31,548.—EDWARD LINDNER, of New York, N. Y.—*Improved Furniture Caster.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—First, the socket, the concavity of which is formed of an elliptical, oval, or other equivalent form, and the orifice or rim of which is of a diameter smaller than that of the globe, whereby the globe may be inserted within the socket by the application of heat, substantially as described.

Second, in combination with the studs or pins in the upper part of the socket, the angular slot in the cap piece, for the purposes described.

Third, in combination with a socket cast in one piece with the screw, or other appliance for fastening the caster to a piece of furniture, forming the concavity of an elliptical, oval, or other equivalent form, whereby the globe will have but one point of contact within the socket, which is diametrically opposite to its point of contact with the floor.

No. 31,549.—DANIEL H. MALOY, of Temperance, O.—*Improvement in Ploughs.*—Patent dated February 26, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of an adjustable gauge, with adjustable handles arranged as described, so that, in adjusting the gauge, an adjustment is at the same time effected in the handle.

No. 31,550.—JOSEPH Y. MARSH, of New York, N. Y.—*Improved Curtain Fixture.*—Patent dated February 26, 1861.—This invention consists of a grooved pulley and pointed lever that act to stop the curtain at any given point, or, upon being released, allow the curtain to be wound up by a volute spring.

Claim.—The pulley *i*, and pointed lever *k*, applied in combination with a spring blind, or curtain roller, substantially as and for the purposes specified.

No. 31,551.—E. C. MARTIN, of Muscatine, Iowa.—*Improved Ditching Machine.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The use in the described connexion with a ditching plough of a V-shaped follower made in two halves K H, K H, connected together by adjustable hinges, with or without cross pieces J J, so as to adapt the implement to ditches of different width, in combination with two adjustable friction rollers N N, substantially as set forth.

No. 31,552.—THOMAS J. MAYALL, of Roxbury, Mass.—*Improvement in Caoutchouc Hose Tubing.*—Patent dated February 26, 1861.—This invention consists in winding up a tube of rubber or gutta percha, or a tube composed of fibrous materials, and coated with India-rubber or gutta percha cement, or other water-proof lining, with twine, wire, or other suitable thread of sufficient fineness, closely around the periphery of the same.

Claim.—A hose or tubing in which the periphery of one or more of its layers is formed by winding upon an inner tube or lining strands of thread, twine, wire, &c., substantially as set forth.

No. 31,553.—LEANDER MCKEE, of Hagerstown, Md.—*Improvement in Mill for Grinding Apples.*—Patent dated February 26, 1861.—The concaves or mashers are provided with teeth, and operated by means of a crank, so arranged as to produce an alternate forward motion against the cylinder. A regulating bar is so arranged as to cause the fruit to be crushed into larger or smaller pieces.

Claim.—First, the arrangement and combination of cylinder A, double eccentric B, concaves or mashers C; and,

Second, regulating bar D, substantially as and for the purpose set forth.

No. 31,554.—JOHN R. MICKEY, of Waterford, Penn.—*Improved Churn.*—Patent dated February 26, 1861.—This invention will be understood by reference to the engraving.

Claim.—The stationary perforated paddles F, in combination with the rotating perforated paddles E, when the two sets of paddles F and E consist of simple planes, and are arranged obliquely in opposite directions, substantially as described, for the purposes set forth.

No. 31,555.—G. I. MIX, of Wallingford, Conn.—*Improvement in the Manufacture of Spoons.*—Patent dated February 26, 1861.—This invention relates to spoons which are cast from soft metal, and require to have their handles strengthened by means of a wire, and it consists in the use of a wire bent in a zigzag form and with flattened ends so as to enable it to fit two spoons, one part serving as a handle to adjust the other part in the mould, and when a spoon is cast on one part of the wire the spoon will serve as a handle to adjust the other part of the wire in the mould to cast another spoon. When finished, the wires are cut off close to the handles.

Claim.—The employment in the manner and for the purposes shown and described of the zigzag wire A, formed as set forth, in combination with the mould B, and spoons *f f*, all as specified.

No. 31,556.—F. E. OLIVER, of New York, N. Y.—*Combined Paper Cutter and Ruler.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—A combined paper cutter and ruler, having for its peculiar characteristic a paper cutting or tearing blade, and on the opposite edge of the implement to that which forms the cutting edge, a raised and round, or round-edged ruler, made either hollow or solid, substantially as set forth.

No. 31,557.—J. M. ROBERDS, of Washington, D. C.—*Improvement in Bridle Bits.*—Patent dated February 26, 1861.—Instead of the chain of which the curb is usually made, a piece of corrugated sheet metal is attached to the bit by means of hooks and links. At the centre of the bit is a flattened cross-piece for pressing open the animal's mouth.

Claim.—First, a bridle constructed with such a flattened cross-piece in the bit, in combination with the corrugated curb, contrived and operating as shown.

Second, the use of a corrugated curb for a bit, constructed and arranged substantially as set forth.

No. 31,558.—SHERIDAN ROBERTS, of Cleveland, O.—*Improved Method of Making Barrels.*—Patent dated February 26, 1861.—The cylindrical portion of barrels, &c., are designed to be formed in one piece, and are cut from the surface of solid cylinders by means of a curved knife or tool of proper form attached to a lathe.

Claim.—Making barrels, kegs, &c., by cutting from a solid piece of wood a scroll of proper thickness and size, the scroll having the usual concave surface inside, and the outer surface correspondingly convex, as described and completed, as specified.

No. 31,559.—J. M. RODMAN, of South Union, Ky.—*Improvement in Ploughs.*—Patent dated February 26, 1861.—This invention consists in bracing and steadying the plough body by a curved brace connected to the lower ends of the stilts, and to the plough beam, and in combining with this curved brace a foot-piece and an adjustable brace for the foot-piece, the whole being so constructed and arranged that the stock of a subsoil plough may be introduced in the place of the foot-piece, and adjusted by the brace of the foot-piece.

Claim.—The curved brace F, handles E E, bar G, in combination with the adjustable back brace H, all arranged and operating substantially as and for the purposes set forth.

No. 31,560.—E. ROUGHTON, of Frostburg, Md.—*Improved Arrangement of Carriage Springs.*—Patent dated February 26, 1861.—Secured to the four corners of the body of the vehicle are projecting rods which rest upon one or more elliptical springs placed between two upright rods secured to the head blocks of the connecting bar. A band of metal passes over the springs, and is secured to the upper ends of the upright rods.

Claim.—First, the employment of the bars *d d*, the rods *a a*, and the band E, arranged in the manner represented, for the purpose of holding the body of the vehicle in position, and for shielding and protecting the springs from strain, substantially as set forth.

Second, the combination of the springs H H, with the bars *d d*, rods *a a*, band E, and plates *c c'*, the several parts being used as and for the purpose specified.

No. 31,561.—J. S. SAMMONS, of New York, N. Y.—*Improvement in Roofing with Slate.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The described mode of attaching slates to roofs, which consists in preparing the edges of the slates with cement, then applying said edges to a hot iron or other heater to melt the cement, then pressing the edges of the slates against each other, and against the roofing, all as set forth and described, so that the slates will be firmly attached to each other and to the roofing by the cement, without the necessity of any other fastening.

No. 31,562.—JOHN T. SCHOLL, of Port Washington, Wis.—*Improved Lifeboat.*—Patent dated February 26, 1861.—This vessel is of cylindrical form, with conical ends, and is constructed of slats of wood or metal, jointed and hinged together in such a manner as to admit of being folded up; it is covered with a water-proof fabric protected by plates of metal. At each end of the cylindrical part is a hinged circular head for distending the frame, and constructed of several sections to admit of their being folded. Within the vessel is a carriage placed upon rollers so as to enable it to maintain a level position, or, if necessary, it may be secured in position by hooks. The vessel is also provided with coiled springs, which are compressed together when the boat is folded, but assist in forcing out the ends when the vessel is to be put in condition for use.

Claim.—First, the cylindro-conical lifeboat constructed of separate slats *a a a a a' a'*, hinged together, and capable of folding up as described, in combination with a water-proof fabric *c*, and metallic sheathing *d d' d' e e* and *e' e' f f f* and *g' g*, all arranged and applied substantially as and for the purpose described.

Second, in combination with the cylindrical part of the boat, the hinged folding heads A A, arranged and operating as and for the purpose set forth.

Third, the carriage G, link *p*, wheel-frame Z, apertures S, spring valves S', spring and arm *r*, levers and propeller wings *t*, and the coil springs *j j*, when the same are constructed, combined, and made to operate as specified.

No. 31,563.—GEORGE SEIBERT and JOHN SEIBERT, of Ashley, Ill.—*Improvement in Ploughs.*—Patent dated February 26, 1861.—The axle of the two forward wheels consists of two parts, the shorter being placed under and connected to the longer part by means of a pivot, for the purpose of allowing the wheel attached to the shorter part to clear the plough, and to enable it to turn. The standards to which the ploughs are secured are attached to the beams by means of brackets fixed to the top of the frame and held by set screws; a latch serves to hold the standard in a groove on the side of each beam. By means of a slot in the axle the ploughs may be adjusted to a greater or less distance apart.

Claim.—First, arranging the piece J with the axle H and tongue *x'* in the manner described, for the purpose specified.

Second, the brackets *b b*, set screws *a a*, and latch E, arranged in the manner described, for the purpose specified.

Third, the slot P, the studs G G, and beam A', when arranged in relation to their respective parts substantially in the manner described, for the purpose specified.

No. 31,564.—CAMPBELL T. SETTLE, of San José, Cal.—*Improvement in Seeding Cultivators.*—Patent dated February 26, 1861.—This machine consists of a combination of devices operating by means of pinion wheels, to regulate the depth of furrow made by the plough, or to raise the latter from the ground, and also to operate the seed-dropping mechanism.

Claim.—The combination with pinion-shaft J of the arm *p*, curved lever *i*, and sliding pinion *b'*, the shaft *c*, connecting rod *c'*, vibrating lever *d*, and seed-slide *e*, arranged and operating substantially in the manner set forth.

No. 31,565.—WILLIAM F. SHEDD, of Ripley, O.—*Improvement in Ploughs.*—Patent dated February 26, 1861.—This invention consists in an arrangement of parts for the purpose of adjusting the clevis so as to regulate the depth of ploughing, or to give more or less land, as may be desired.

Claim.—The arrangement of the pivoted bracket F, stirrup G, and regulating screws *m* and *o*, to operate in combination with the clevis E, in the manner and for the purposes specified.

No. 31,566.—FRANCIS H. SMITH, of Baltimore, Md.—*Improved Drying Tunnel.*—Patent dated February 26, 1861.—This invention, which will be understood by reference to the engraving, is designed for drying brick, fruit, or other articles. The tunnel or apparatus is divided into compartments by means of sliding gates, which may be opened and the cars pushed through successively when the drying process in the trays upon the forward car is completed.

Claim.—A tunnel A B C, having a furnace R or its equivalent at the rear end, and a chimney L at the front end, in combination with gates F G H, car J, trays I, and inclined rails E E, the whole being constructed and arranged substantially as and for the purpose set forth.

No. 31,567.—H. W. SPOONER, of Erie, Pa.—*Improvement in the Tubes of Artesian Wells.*—Patent dated February 26, 1861.—This invention has for its object the isolating of the fluid desired from such other fluids or substances as might be broken into or reached in the process of boring, and the delivering of such fluid unalloyed or unimpregnated by any other fluids derived from the veins or courses struck or opened in boring, by means of a tube or barrel, in the centre of which is placed a cylinder. Into this cylinder is fitted a piston operated by a screw-rod passing through screw-nuts and terminating in a pyramidal head for fitting on a wrench. Through a stand I, secured to the cylinder, are passages for conducting to the exterior of the barrel the fluid to be used for the pressure upon the India-rubber packing J, surrounding the barrel.

Claim.—In the use of tubes or cases for oil-well or other borings, the arrangement of the means recited, substantially as and for the purpose set forth.

No. 31,568.—L. R. STONE, of Owassa, Mich.—*Improvement in Machines for Raking and Cocking Hay.*—Patent dated February 26, 1861.—This machine consists of an arrangement of devices by which, as it is drawn over the field, the loose hay is taken up by the inclined apron and deposited in a receiving box, from which it may be dropped on the ground at intervals to form cocks, by tilting the box; or it may be deposited from the apron into a cart.

Claim.—The arrangement of the levers J J, tilting box K, bars E1 E2, wheels B B, rollers G G, belts H H, and apron *c*, upon the bars E E and caster wheels *e*, the whole being constructed and operated substantially as and for the purpose shown and described.

No. 31,569.—HENRY D. STOVER, of New York, N. Y.—*Improved Packing Case.*—Patent dated February 26, 1861; ante-dated August 26, 1860.—This invention consists in constructing the body of the packing case of a single piece of wood, the ends being secured by a side clamp.

Claim.—First, the body of the case A, with the clamp A′, to secure the ends of the same, arranged and constructed as and for the purposes fully set forth.

Second, the formation of slots C in the rings D, at an angle with the cover surface, when combined with pins B and bars G, that the act of fixing the cover to the case will draw and retain their surfaces of contact tightly together.

Third, securing the metal ring D to the wooden cover E, by means of the recess E′ formed in the sides thereof, substantially as and for the purposes fully set forth.

Fourth, the cover constructed by crimping a strip of sheet metal B′, and the forming of it into a ring, and into which crimp a disk or cover-piece of wood A′ is sprung or pressed, and thus united, substantially as and for the purpose set forth, or the mechanical equivalents thereof.

No. 31,570.—THOMAS WISE, of Boston, Mass.—*Improvement in Stamp-Head for Quartz-Crushers.*—Patent dated February 26, 1861.—The face of the stamp-head consists of a cluster of small metallic bars held in a socket by means of clamp-jaws and an encircling band, so that as the face wears away plates may be inserted in the other end of the socket to raise the rods, and the latter may be used until worn out.

Claim.—First, a hammer-face B, composed of a cluster of metallic rods, as explained.

Second, the yielding clamp-jaws A1 A2 A3 A4 and band C, constructed, combined, and operating in the manner set forth, to secure a movable hammer-face in position.

No. 31,571.—J. A. CRANDALL, of New York, N. Y., assignor to MARY CRANDALL, of said New York.—*Improved Toy Horse.*—Patent dated February 26, 1861.—The shaft B is made to retain the spring D in proper position, preventing its back or curved end *d* from rising, a contingency which would otherwise occur under the downward movement of the horse, which would materially interfere with the proper action of the spring.

Claim.—The particular arrangement of the spring D with the horse C and rock-shaft B, when the hind feet of the horse are attached to said shaft B, and the whole is constructed as set forth.

No. 31,572.—PERLEY D. CUMMINGS, of Portland, Me., assignor to D. H. FURBISH, of said Portland.—*Improvement in Sowing Machines.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—A rotating centrifugal discharger for seed and other materials, which is a combination of spouts that diverge from the same axis of rotation at different angles with the radii, drawn respectively through the inner ends of said spouts, substantially as described.

Also, the combination of the stirrer with mechanism that causes the stirrer to descend and rise in the hopper in a path substantially such as described, the descent and ascent being made in different directions, for the purpose specified.

Also, the combination of the stirrer with the rotating shaft (or other moving part of the machine) that drives it, in such manner that the stirrer is in gear when the shaft is turned in one direction, and out of gear when the shaft is turned in the reverse direction, substantially as described.

Also, the combination of the stirrer mechanism with the hopper-gate in such manner that the closing of the hopper-gate throws the stirrer out of gear, substantially as described.

No. 31,573.—GEORGE GARY and SAMUEL P. GARY, of Oshkosh, Wis., assignors to Themselves and JOSEPH E. GARY, of Chicago, Ill.—*Improvement in Printing Presses.*—Patent dated February 26, 1861.—The frame has a reciprocating motion given to it by means of a lever. The paper is fed to the tapes over the cylinder E and passes over the form and then back, the printed sheet being discharged over the roller L. The sheets are carried by the blanket and tapes over the form, the rollers E E giving the impression.

Claim.—The combination of the pressure roller F and reciprocating frame D with the impression cylinder E and type-bed B, in the manner substantially as shown and described.

No. 31,574.—JOHN F. GREENE, of Brooklyn, N. Y., assignor to SAMUEL B. TOBEY, of Providence, R. I.—*Improvement in Machine for Sifting Flock.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—The slowly rotating sieve cylinder, with its open heads and inward projecting blades or ribs, and its outer casing, substantially as described, in combination with the rapidly rotating inner concentric cylinder, having teeth and apertures for air communicating with the hollow shaft, substantially as and for the purposes specified.

No. 31,575.—A. HAYDEN KNAPP, of Newton Centre, Mass., assignor to Himself and GEORGE W. TISDALE, of Walpole, Mass.—*Improved Coal-Sifter and Shovel.*—Patent dated February 26, 1861.—The parts are so constructed as to be used separately for a shovel or coal-sifter, and easily attached together to be used as tongs.

Claim.—The two parts A and B, provided with the pivot *f* and aperture *g*, constructed substantially as set forth, for readily hinging and unhinging, in combination with the arrangement and construction of the tines or prongs, so as to prevent the clogging of substances between them, substantially as specified.

No. 31,576.—WILLIAM MASON, of Warren, Mass., assignor to Himself and LUCIUS N. FAY, of said Warren.—*Improved Wrench.*—Patent dated February 26, 1861.—The jaw is allowed to slide freely on the bar, and is provided with a shank in which is placed a nut F, having an internal diameter larger than that of the bar, so as to admit of a lateral play upon the bar. Within the shank is placed a spring, the lower end of which bears against the nut, which causes the latter to gear with the screw-thread, by which means the jaw is readily adjusted to its work and the slow movement of the screw-wrench avoided.

Claim.—The combination of the vibrating nut F, and spring G, with the bar A and movable jaw E, in the manner and for the purpose substantially as shown and described.

No. 31,577.—JAMES MATTHEWS, of Middletown, Pa., assignor to Himself and HENRY EGOLFS, of same place.—*Improvement in Grain-Separators.*—Patent dated February 26, 1861.—A vertical screen is secured in the front end of the shoe, and before the horizontal screens, for the purpose of preventing the grain from falling from the horizontal screens and more thoroughly separating the chaff or light caps. To the rear-end part of the shoe is secured an inverted cup, which rests upon a ball placed upon a plate, which admits of a free reciprocating motion of the shoe when shaken.

Claim.—First, the employment of a vertical screen D, arranged in relation to the fan and the horizontal screens of the shoe, whereby said shoe is hung and allowed to vibrate at its front end, substantially as specified.

No. 31,578.—WILLIAM H. MILLIKEN and JOHN MILLIKEN, of Manchester, N. H., as signors to Themselves and D. F. BUCKLEY, of said Manchester.—*Improvement in Machines for Folding Paper.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention, which does not admit of a brief description.

Claim.—First, the combination of the horizontal rolls E, the inclined rolls I, and the table H, so arranged that the sheet of paper, after passing through the first pair of rolls, shall slide down the table to the gauges which determine its position for receiving its second fold without loss of register and without the use of tapes, as set forth.

Second, the combination of the inclined rolls I and P with the inclined trough M, with its fingers a^2 b^2 d^2 so arranged that the sheet shall be guided into the trough after passing through the roll I, and then slide to the position for receiving its third fold.

Third, the inclined rolls P and Q, at right angles to each other, in combination with the knife U, working in a groove in the surface of the rolls, as set forth.

Fourth, the guide-plate *q*, employed for deflecting the sheet in one direction or the other, for giving it three or four folds, without the necessity of unshipping or stopping the operation of either of the knives or rolls.

Fifth, the dropping finger or folding edge upon the fly, operating as set forth, whereby the folding machine may be applied directly to the printing press, and the folding be completed without the necessity of again handling the sheet.

No. 31,579.—F. B. PRESTON, of Fayette, Mo., assignor to Himself and W. H. STAPLETON, of said Fayette.—*Improvement in Corn-Planters.*—Patent dated February 26, 1861.—This device consists of a rectangular tube divided into two compartments provided with a hopper and slide, by means of which, in connexion with handles, the seed to be planted is raised from

the hopper in a quantity sufficient for a single hill, dropped through a tube into a hole made in the ground by the end of the instrument, and at the same time covered with earth.

Claim.—The combination of the three handles *d h i*, with the slide D, tube A, and hopper B, one of the handles, *h*, being attached, the slide and the other two being attached to plate *c*, as and for the purpose set forth.

No. 31,580.—ISAAC ROGERS, of Haverstraw, N. Y., assignor to SAMUEL DASKAM, of New York city.—*Improvement in Furnaces for Treating Iron Ores.*—Patent dated February 26, 1861.—This invention consists of an apparatus for deoxidizing iron ores, by means of which the atmosphere is effectually excluded from the iron while being deoxidized, and a sufficient and regulated amount of heat applied to the deoxidizing apparatus for producing a combination of the iron with carbon introduced with the ore while the oxygen is drawn off and combines with the carbon.

Claim.—First, the shield or cover *l*, in combination with a revolving heated cylinder for deoxidizing metallic ores, whereby the atmosphere, flame, or heated gases are excluded from the deoxidizing cylinder, as set forth.

Second, the arrangement of the chimney *h*, over the end of the chamber *d*, nearest the hopper *g*, and most remote from the entrance of the flues 7 7, for regulating the heat of the chamber *d*, and deoxidizing cylinder *c*, as set forth.

No. 31,581.—GEORGE S. TIFFANY, of Palmyra, and HENRY C. INGRAHAM, of Tecumseh, Mich., assignors to GEORGE S. TIFFANY aforesaid.—*Improvement in Tile Machines.*—Patent dated February 26, 1861.—This machine is designed for making tubular tiles such as are used for draining lands, &c., and the invention consists in a method of moulding the tiles very compactly, so that they may be handled as they are discharged from the machine without liability of being injured; also in the method of adjusting the gearing by which the speed of the spiral or screw feeders is varied relatively with the feeders of the pug mill, so that the moulding box may always be kept properly supplied with tempered clay, the supply being regulated according to the demand.

Claim.—First, the sockets O, in combination with the cones P on the screws, and the thimbles Q, arranged in relation with the screws N, to operate as and for the purpose set forth.

Second, the employment or use of the polygonal bearings *l*, and boxes J, in connexion with the wheels *n o*, of different diameters, on shaft I, and arranged in relation with the wheel *p*, as and for the purpose described.

No. 31,582.—PETER L. WEIMER, of Lebanon, Pa., assignor to Himself, J. A. WEIMER, and L. E. WEIMER, of said Lebanon.—*Improved Registering Apparatus for Steam Engines.*—Patent dated February 26, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—An engine register composed of a box containing a system of wheel work, with dial and indices, having attached to it a cylinder or chamber B, which contains a piston L, and diaphragm J, or their equivalents, carrying a pall *p*, suitably applied to act upon the first wheel of the series within the box, the whole so combined, substantially as described, that the connexion of the chamber by a pipe with the engine cylinder is all that is required to set the register in operation.

No. 31,583.—DANIEL DERR, of Bellefonte, Pa.—*Improvement in Railroad Car Brakes.*—Patent dated February 26, 1861.—The brake-blocks are placed directly over the wheels, and are secured to a bar, which is operated by means of a lever and a rod connecting the front and rear rock-shaft.

Claim.—In combination with the brake bars and blocks, arranged immediately over the tops of the wheels, the lever C, rock-shafts D I, and connecting rod H, when united by the link and pivoted connexions shown, and when arranged and operating as set forth.

No. 31,584.—CLARK ALVORD, of Westford, Wis.—*Improvement in Binding Attachments to Harvesters.*—Patent dated March 5, 1861.—The object of this invention is to facilitate the binding of grain by attaching the device to a reaper, so as to allow the grain to be deposited in the centre of the box. The gavel-carrier is located at one end of the box or trough, and has a reciprocating motion from end to end for the purpose of carrying the gavel from the centre to each end alternately to be bound; or it may be used to convey all gavels to one end of the trough only. The bundle of grain is held and compressed by means of a gate and presser brought together by means of a treadle.

Claim.—First, the reciprocating gavel-carrier A, constructed and operating as described, for the purposes set forth.

Second, the combined pressers D and E, constructed and operating as described and for the purposes set forth.

Third, the combination of the reciprocating gavel-carrier A, with the pressing apparatus D and E, at both ends of the machine, or at but one end, as set forth.

No. 31,585.—WM. W. AUSTIN and F. CREASY, of Carrollton, Mo.—*Improvement in Hemp Breaks.*—Patent dated March 5, 1861.—The breaking slats are arranged on the surface of

the cylinder parallel with its axis, and are each half as long as the cylinder, the slats at one end being placed opposite the spaces between those of the other end, so as to operate alternately upon the stalks as they are fed from the rollers. Over these slats are arranged, longitudinally with the axis of the cylinder, swords or short splitters in a manner corresponding with the slats, by which means the stalks are broken transversely and at the same time split longitudinally.

Claim.—The above-mentioned arrangement of the swords or splitters *h h*, and breaking slats *g g*, upon the cylinder G, for the purposes shown and described.

No. 31,586.—WM. R. AXE, of Beloit, Wis.—*Improved Mop-Holder.*—Patent dated March 5, 1861.—On the end of a stick are placed two removable jaw-pieces, one provided with a needle-bar, and both adjusted and secured in concavities or bearing surfaces in the end of the stick, by a single thumb-screw.

Claim.—First, confining the cloth on a needle-bar *c*, formed on one of the jaws *a*, in combination with an interlocking jaw *b*, the whole constructed and operating substantially as described.

Second, adjusting and securing the jaws *a* and *b* in their proper relative positions with each other and the handle by means of a single screw B, in combination with the concave recesses 1 and 2, and correspondingly convex shanks, the whole construeted and operating as described.

No. 31,587.—BENJAMIN BEST, of Dayton, Ohio.—*For a Composition to Prevent the Premature Decay of Trees, Vines, &c.*—Patent dated March 5, 1861.—The materials of which this composition consists are sperm oil, tar, saleratus, and ammonia, mixed with a barrel of rain-water. Cotton, wool, or any other suitable material, may then be saturated with the mixture and placed around the tree near the ground.

Claim.—The compound mixture of the above materials and its application and use to and for trees, vines, and other growing vegetation.

No. 31,588.—CYRUS CHAMBERS, jr., of Philadelphia, Pa.—*Improvement in Machines for Folding, Pasting, and Cutting Paper.*—Patent dated March 5, 1861.—This invention consists of a series of devices for folding, pasting, and trimming the heads and edges of books or pamphlets at one continuous operation

Claim.—First, the combination of the arms L and M and N, lever O, pawl P, arm Q, and treadle R, or equivalent mechanism, for the purpose of arresting the motion of the paster wheel to prevent its coming in contact with the paper when this is not properly placed on the machine, as described.

Second, so connecting the paster wheel with the first folding-knife that both can be simultaneously arrested by the same mechanism, substantially as specified.

Third, trimming off the heads or edges of pamphlets or signatures during the process of folding, substantially as set forth.

Fourth, so regulating the position of the cutters by means of the stop that both may be simultaneously adjusted to sheets of different sizes, as specified.

Fifth, adjusting the end of the folding-blade to correspond with the position of the stop and cutters, as and for the purpose described.

Sixth, combining in one machine the mechanism for pasting, folding, and trimming off the heads or edges of pamphlets or signatures, substantially as specified.

Seventh, the combination in a folding-blade of a serrated and curved or angular concave edge for the purpose of preventing the sheet from slipping on the knife, and also to introduce the edges of the paper between the rollers slightly in advance of the middle, as described.

No. 31,589.—SAMUEL CLARK, of New York, N. Y.—*Improvement in Tuning-Pins for Musical Instruments.*—Patent dated March 5, 1861.—The pin is constructed with an enlargement at its centre, the periphery of which is roughened or corrugated, for the purpose of increasing the power of resistance to the recoiling strain of the string.

Claim.—A tuning-pin for stringed instruments, when the same is constructed in the manner substantially as described.

No. 31,590.—B. COE and M. GEON, of Dalton, O.—*Improvement in Vessels for Evaporating Saccharine Juices.*—Patent dated March 5, 1861.—The inside wall of the furnace is protected by movable fluted cast-iron plates standing in an oblique position along the sides, so as to allow a passage for a current of air which enters holes in front. The back part of the furnace rests upon a bar or pivot supported by two posts, and to the front part is attached a shaft provided with pinions moving in a segment, by which means the ends of the furnace and pan may be raised and lowered, so as to cause the fluid in the pan to move fast or slow, as may be desired, in evaporating the juice.

Claim.—The evaporator, in combination with the protectors to the furnace, as shown in Fig. 3, the shaft B, the pinions *b b*, the segments *c c*, the sliding loops E E, the ratchet wheel A, lock *d*, and the pivot D, as shown in Fig. 1, as described and for the purpose set forth.

No. 31,591.—E. DAVIS and ALONZO PALMER, of Hudson, Mich.—*Improvement in Grain-Separators.*—Patent dated March 5, 1861.—A section of the fan-case is made to slide, and, opening into the fan-case at the head of the shoe, is a trap-door, which is kept closed by a spring, and raised and adjusted by means of a strap. The shoe is hung at one end by straps, the other end being provided with a spring-bar resting upon rollers. By means of the connecting rods and a cross-bar a lateral and longitudinal, and at the same time a partially circular, motion is given to the shoe.

Claim.—The employment, in connexion with the shoe, of the connecting rod *a*, the spring *d*, the rod *e*, attached eccentrically to the fan-shaft pulley G, the bar F, and the rod *i*, when arranged as shown, by means of which a lateral and longitudinal, and at the same time a partially circular, motion is communicated to said shoe, substantially as set forth.

Second, the arrangement of the sliding section H of the fan-case with the trap-door I, spring *m* and strap *n*, for the purpose of directing and regulating the draught at the head of the shoe, substantially as set forth.

No. 31,592.—W. E. DOUBLEDAY and S. H. LYON, of Brooklyn, N. Y.—*Improved Die for Pressing Hats.*—Patent dated March 5, 1861.—This invention consists in fitting the inner die so as to be raised or lowered in the brim die, and also in fitting the tip die so as to be adjustable accordingly in the outer die, thereby enabling dies to be adapted to the varying circumference, so that hats of any size or height of crown may be pressed.

Claim.—The crown die *b*, fitted to be raised or lowered in the brim die *a*, for the purposes and as set forth.

And, in combination with the adjustable crown die *b*, the adjustable tip die *f* in the die *e*, for the purposes and as specified.

No. 31,593.—DANIEL FLEMING, of Brooklyn, N. Y.—*Improved Brush.*—Patent dated March 5, 1861.—The ends of the bristles are confined around the brush handle by a metal ring and cemented in the usual manner. A cap, with an annular groove and female screw cut in it, is then forcibly screwed upon the handle and imbedded in the soft cement.

Claim.—The screw-cap D, or its equivalent, combined with a brush, essentially as and for the purposes described.

No. 31,594.—G. W. T. GRANT, of Winona county, Minn.—*Improvement in Picket Fences.*—Patent dated March 5, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—The construction of a picket fence with only one rail to the panel, having the rails supported on the shouldered pickets, and being placed at a sufficient angle with each other, consecutively, to give the necessary strength to the fence to resist lateral pressure, the pickets fitting loosely in the holes of the rails, and the lower ends of the pickets sunk sufficiently into the earth to prevent them from being moved laterally out of place, all in the manner and for the purpose set forth and described.

No. 31,595.—JOHN GRIFFIN, of Louisville, Ky.—*Improved Mode of Regulating the Speed of Vehicles moved by Mechanical Power.*—Patent dated March 5, 1861.—This invention is designed more especially to be applied to steam carriages in connexion with cotton-picking devices. When a rapid movement, as in travelling from place to place, is required, motion is communicated directly to the axles by means of connecting rods K K attached to the walking beams; but when a slower movement is desirable, as when at work, the connecting rods K are detached from the axles, when the connecting rods M M, also attached to the walking beams, are made to operate toothed wheels on the ends of the axles by means of a worm screw, an upright shaft, and bevelled gear-wheels, attached to the platform.

Claim.—The arrangement of the two connecting rods K M, attached respectively to the cranks L N of the axles D and shafts O, the latter, when in use, being connected with the axles by the gearing *g h* Q, substantially as and for the purpose set forth.

No 31,596.—JOHN GRIFFIN, of Louisville, Ky.—*Improvement in Cotton-Pickers.*—Patent dated March 5, 1861.—A perforated metal tube A, having a flaring end-piece at one end and a valve at the opposite end, constructed of India-rubber, provided with springs to keep the valve gently closed, is fitted within a tube D, the latter being attached to a flexible tube which conducts the cotton into the receiver. To the outer tube is attached a vent-pipe connecting with a cylinder, provided with a double-acting valve which connects with a suction tube, and when open admits of suction in the tube A, which draws the cotton boll from the stalk and forces it through the elastic valve. When the double-acting valve is closed, communication between the tubes is cut off, and a saving effected in the suction-producing power.

Claim.—The arrangement of the tubes A D, cylinder E, and valves *c* F, substantially as and for the purposes set forth.

No. 31,597.—D. D. HARDY and J. J. MORRIS, of Cincinnati, O.—*Improvement in Rotary Pumps.*—Patent dated March 5, 1861.—The interior of the pump-case is formed into two cylindrically-shaped chambers, so arranged as to leave between them two central inner tongues or projections. The larger semi-cylindrical parts of the pistons are equal in diameter to

the parts of the chamber in which they are placed, and the periphery of the larger part of one cylinder works in contact with the periphery of the smaller part of the other, so that a continuous stream is forced up as the piston rotates.

Claim.—The employment of the rotary pistons B B', formed of two semi-cylindrical cylinders of different diameters, in combination with the two central inner tongues or projections D D' of the case A, substantially as shown and described.

No. 31,598.—JOHN HASTINGS and L. P. GANITOR, of San Francisco, Cal.—*Improvement in the Process of treating Gold and Silver Ores.*—Patent dated March 5, 1861.—The claim explains the nature of this invention. For a description of the process the specification must be referred to.

Claim.—The manner of extracting gold and silver from their ores by the use, in the manner set forth, of chloride of copper, whether prepared in the manner described or by any other means.

No. 31,599.—G. E. HAYES, of Buffalo, N. Y.—*Improved Apparatus for Vulcanizing Caoutchouc.*—Patent dated March 5, 1861.—The method of constructing and using the vessel as claimed is designed to dispense with water within the vulcanizing vessel as a heating medium, as heretofore used, other than that in combination with the plastic mould, and also requires less heat. A mercury chamber is formed in the upper section, so that the degrees of heat may be correctly indicated, and the danger and inconvenience of placing the bulb within a steam chamber avoided. A narrow ring, in which the mould is placed, is used for the purpose of facilitating the removal of the plaster from the vulcanizing vessel.

Claim.—First, so constructing and using a vulcanizing vessel with a flattened bottom as that the plaster mould containing the rubber compound shall lie in contact with the inside of the lower part of the vessel, so that the heat from the lamp or other heating body shall be applied directly to that part of the vessel upon which the mould lies, for the purposes and substantially as set forth.

Second, a mercury chamber formed in the upper section, the same being constructed and arranged with the thermometer substantially as set forth.

Third, the opening *c*, in combination with the bottom A, band D, and cover E, substantially as described.

No. 31,600.—J. S. HOOTON, of New Carlisle, Ind.—*Improved Condenser and Water-Heater for Steam Engines.*—Patent dated March 5, 1861.—This invention consists in so commingling the water in the form of spray, shower, &c., with the exhaust steam from an engine, that a considerable portion of said steam is condensed and unites with the crude water from the well or cistern, and at the same time raising the temperature of the feed-water to nearly the boiling point, thus saving fuel, and also using much condensed steam or distilled water, whereby less incrustation of the boilers takes place.

Claim.—The arrangement of the induction and eduction pipes A and B, the induction and eduction pipes I and O, the waste-water pipe S, and the alternating opposite plates or shelves *x x* with each other, and with the vertical box or tube of the apparatus, when the said plates or shelves are placed at such distances from each other that the water can be made to fall in succession from one shelf to another in broadly expanded and thin sheets, and, whilst thus falling, be acted upon by the ascending steam within the apparatus, in the manner set forth.

No. 31,601.—J. W. HOWLETT, of Greensboro', N. C.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—On the top of the upper needle-arm is arranged a bent spring upon a pivot, which can be pressed together by a clamp nut on the screw end of the pivot. The outer ends of the spring are dovetailed, so as to receive two plates of glass, between which the upper thread passes. A rod, extending between the forked ends of a projection under the platform, is provided with a tapering face, and is so arranged, in relation to the lower or horizontal needle, that the latter, as it advances, meets the tapering end of the rod, and presses the face U slightly back against the spring Y, so that the loop of the lower needle is thrown forward, and the vertical needle, as it descends, is made to pass entirely through said loop, thus avoiding any liability of a drop stitch.

Claim.—First, producing the necessary tension of the upper needle thread N', by passing it between two glass plates M' M', held in dovetail slots at the end of a bent spring J, when this spring is combined with an adjustable clamp screw L', substantially as and for the purposes set forth.

Second, making the tension plates of glass, substantially as and for the purposes set forth.

Third, the arrangement of a rod W, with a tapering face U V, and spiral spring Y, in combination with a vertical and horizontal reciprocating needle, substantially as and for the purposes set forth.

No. 31,602.—JOSIAH HOWELL, of Sacramento, Cal.—*Improvement in Hemming-Guides.*—Patent dated March 5, 1861.—Attached to the bottom plate A of the hammer is the curved side of a flattened taper tube, by which the outer fold of the hem is turned. Upon the upper plate D is formed the upper flat portion of the tube, and the covered side thereof, by which the

inner fold of the hem is turned. The parts are connected by means of a sliding bar, which admits of adjustment of the plates for hems of different widths.

Claim.—The division of the tube in three parts *a d* and *b c*, of which the two lower parts *a* and *d* are connected together by a bar F, passing over the plate D, of which the upper portion *b c* forms part, the whole arranged and applied substantially as set forth.

No. 31,603.—R. M. HUGHES, of Pleasant Grove, Pa.—*Improvement in Railroad Car Coupling.*—Patent dated March 5, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—A car coupling consisting of a link and pin combined in one piece and pivoted or swung near the middle, one end serving as a link and the other as a catch, so constructed and arranged as to be self-coupling and detachable by means of a lever or other equivalent device, substantially as described.

No. 31,604.—J. L. HYDE, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—The foot-frame is open at one end, so that the two sides form jaws provided with grooves, into which the foot-plate is inserted.

Claim.—The combination of a foot-plate with the shank of the presser foot by means of a foot-frame open at one side, so as to permit the introduction of the foot-plate edgewise therein, substantially as described.

No. 31,605.—GEORGE IVES, of Detroit, Mich.—*Improved Wood-Saw Horse.*—Patent dated March 5, 1861.—This invention consists in attaching to a common saw-horse a pivoted pedal, to which is secured a hooked rod for the purpose of holding the stick of wood upon the horse, instead of using the knee, as is usual. A spring is used for elevating the pedal to throw the hook out of the way when putting on the wood.

Claim.—The application to saw-horses of a pedal with hook and spring attached, for the purposes mentioned, namely, the better means of making firm and holding secure in its place any stick of wood or other articles to be sawn, using for such purpose any style of hook and means of turning the same, or any kind of spring that will produce, by the aid of the pedal or otherwise, the intended effect.

No. 31,606.—JOSIAH JAMES, of Ogdensburg, N. Y.—*Improvement in Mechanical Movements.*—Patent dated March 5, 1861.—The joint is so constructed that one end of the walking beam, being inserted in a balance-wheel having a rotary motion, the opposite end has a reciprocating vertical movement, so that the propelling power may be applied at the end of either section as may be desirable.

Claim.—The joint walking beam as shown in Fig. 1, consisting of the jaws or upper and lower portions of joint, as shown in A A′ and A″, the end of the lever or other portions of the joints, as shown in B B′ and B″, together with the pin C.

Also, the joint placed at the point where the walking beam is poised, to give a compound or rotary motion to the end of the walking beam, inserted in the fly or balance wheel E.

No. 31,607.—MATHIAUS KAEFER, of Factoryville, N. Y.—*Improvement in Transmitting Motion.*—Patent dated March 5, 1861.—The fly-wheel shaft is hung in the ends of two arms or pendants, which swing on a rock shaft in such a manner that the fly-wheel shaft, with its connexions, oscillates in an arc described around the centre of the rock-shaft, and the friction created by the oscillating or reciprocating motion of the fly-wheel and fly-wheel shaft is thrown on the journals of the rock-shaft, by which means loss by friction is diminished, and the driving belt retains a uniform tension.

Claim.—The arrangement of the shaft A, guide-rods E E, and fly-wheel B, with the arms F F, and rock-shaft *b*, in the manner and for the purpose shown and described.

No. 31,608.—JACOB KLEIBER, of Memphis, Tenn.—*Improvement in Swimming Propellers.*—Patent dated March 5, 1861.—This device is designed to be attached to the wrist by a strap, and while swimming the forward motion of the hand tends to close the frame; upon drawing back the hand, the resistance of the water causes the frame to open and draw the operator forward.

Claim.—The arrangement and combination of the hollow shank D, with its flanged part H, the rod E, and spiral spring *f*, when used in connexion with the arms K, rods *l*, and a waterproof covering A, the whole being made and operated in the manner and for the purpose set forth.

No. 31,609.—W. A. LIGHTALL, of New York, N. Y.—*Improved Method of Supplying Water to Steam Vessels, for the Purpose of Condensing Steam or Cooling Water.*—Patent dated March 5, 1861.—This invention consists in forcing a current of external water through one aperture in the side of the vessel into the condenser or cooler, and passing it from the condenser through another similar aperture by the motion of the vessel as it passes through the water. The apertures are provided with hooded covers for guiding and forcing the water into the same.

Claim.—The arrangement of the hoods D D′, constructed as shown, in their relation to the condenser or cooler C, and the vessel A, as described and for the purpose set forth.

No. 31,610.—R. LITTLE, of Middle Branch, O.—*Improved Device to Prevent Hogs from Rooting.*—Patent dated March 5, 1861.—This device is applied by passing the sharp end of the wire through the hog's snout, and bending it over the lower part.

Claim.—A device for preventing hogs from rooting; formed from a single piece of wire, in the manner described and as fully shown in Fig. 1 of the accompanying drawings.

No. 31,611.—G. B. MALLETTE, of Millport, N. Y.—*Improvement in Portable Field Fences.*—Patent dated March 5, 1861.—This construction of fence enables the stakes to be placed at any required inclination to each other and to the stretcher bar; and the splice pieces when decayed may be taken off and new ones substituted without removing the main portion of the bar or disturbing the fence.

Claim.—The stakes C C, armed with the splice pieces *c c*, when pivoted to their supporting stretcher bar B, and provided with the notches *i i* in their inner edges or sides, in combination with the sections A A, substantially as and for the purpose specified.

No. 31,612.—GALUSHA MARANVILLE, of Hampton Corners, N. Y.—*Improvement in Calendar Clocks.*—Patent dated March 5, 1861.—This invention consists in arranging below the face plate, and so as to turn around the central shaft of the clock movement and independently of the same, two disks or dials marked respectively with the names of the days of the week and of the month. The dials require to be properly set at the commencement of each month. A hand, operated by a ratchet wheel, is made to point out the day of the week and month.

Claim.—The combination of the independently adjustable dials B C, face plate A, and hand D, the latter being actuated by clock movement, and the whole arranged and adapted to operate in connexion, in manner substantially as and for the purposes shown and described.

No. 31,613.—T. J. MAYALL, of Roxbury, Mass.—*Improvement in Brushes.*—Patent dated March 5, 1861.—This invention is explained by the claim and engravings.

Claim.—A new mode of securing bristles or other materials used in brushes, by fixing them in a setting or stock of India-rubber or gutta-percha, substantially in the manner described, so that the said bristles shall be firmly held in their places and clasped by virtue of the elastic force of the India-rubber or gutta-percha, and their setting protected against the action of water or other agents to which they might be exposed in the use of the brush.

No. 31,614.—T. J MAYALL, of Roxbury, Mass.—*Improvement in Water-proof Hose.*—Patent dated March 5, 1861.—The form of the hose, as constructed in this invention, admits of its being conveniently reeled for transportation.

Claim.—Forming a hose or tubing in two flat pieces or sides of cloth or woven fabric, coated with rubber or gutta-percha in one or more layers or thicknesses, and united at their edges by sewing, riveting, or otherwise, substantially as set forth.

No. 31,615.—F. J. MILLER, of Buford, Ga.—*Improvement in Machinery for making Rope.*—Patent dated March 5, 1861.—The platform is made in two parts hinged together, upon which are placed a sliding and stationary frame which support the gear-wheel shafts. A self-adjusting grooved twist-regulator is placed at the junction of the strands, and is pressed backwards as the strands twist together.

Claim.—The combination of the folding platform A and sliding frame C′, with its wheels I I′, with the stationary frame C, with its wheels H G G G, and grooved self-adjusting regulator D, arranged for operation as and for the purposes set forth.

No. 31,616.—E. J. Y PATRULLO, of Yucatan, Mexico.—*Improvement in Machines for Dressing the Leaves of the Agave Plant.*—Patent dated March 5, 1861.—The beaters consist of wedge-shaped pieces of steel or other suitable material extending across the face of the drum, their edges being alternately smooth and notched or comb-edged, for the purpose of separating the fibres and scraping off the fleshy parts adhering to the fibres.

Claim.—The described arrangement of alternate comb-edged and smooth-edged beaters B B′, on the circumference of a rotary drum A, in combination with feed-rollers D D′ and with an adjustable hinged apron F, constructed and operating in the manner and for the purpose set forth.

No. 31,617.—FRANCIS PEABODY, of Salem, Mass.—*Improvement in Looms.*—Patent dated March 5, 1861.—The dents of the reed are each provided with a projection whose lower edge is arranged over the race-beam at an acute angle with the front bearing edge of the dent, so that the shuttle will be prevented from rising upward and kept close to the reed. The projections are arranged so as to extend over or alongside the path of the shuttle in such a manner as to prevent the shuttle from deviating from its proper course, and the several projections are so arranged as to leave a space between each two of them in order that the two warp threads which are to be crossed in filling may extend and work between them as well as between the dents of the reed. The shuttle is constructed with its mouth inclined to the base, the upper part being made with an inclined lip so as to work under the projections of the bevelled dents. The front of each shuttle-box is made open, and to each box is applied a

brake or stopper so as to extend over the race-beam, it being made to work in the plane of the lay and to be pressed downward by a spring suitably applied to it.

Claim.—In combination with the reed and race beam of a loom, a series of projections extending from the reed and over the race-beam in such a manner as not only to operate while the shuttle is being driven longitudinally across the race-beam in maintaining the said shuttle in its proper path relatively to the race-beam or the reed, or both, but to allow the warps to extend and work between the said projections, substantially as specified.

Also, the improved arrangement of each spring stopper of the race-beam relatively to the upper surface of the said race-beam, viz., in manner and so as to press the shuttle down upon the said surface, substantially as described.

Also, the improved mode of constructing the shuttle, viz., with its mouth inclined relatively to the base, and provided with the retaining lip or its equivalent arranged at its upper edge, substantially as and for the purpose specified.

No. 31,618.—J. M. PERKINS, of Cleveland, O.—*Improvement in Water Elevators.*—Patent dated March 5, 1861.—Two buckets are connected by a rope or chain to a windlass in such a way that one bucket will rise as the other falls. A spout, provided with curved rods acting as stops, serves to tilt the elevated bucket at the proper time and discharge its contents into the spout.

Claim.—The buckets E E attached to the windlass B, as shown, and provided with the recesses *d*, in connexion with the spout F, provided with the curved rods or hooks G, arranged in such relation with the buckets to operate as and for the purpose set forth.

No. 31,619.—CHARLES PERLEY, of New York, N. Y.—*Improved Ship's Capstan.*—Patent dated March 5, 1861.—This invention consists in fitting the capstan barrel with two nests of balls, in such a manner that the sidewise strain from a rope or chain is taken upon balls between the capstan barrel and the spindle upon which it turns.

Claim.—The capstan or other barrel for ropes or chains, provided with the circular recesses 1 and 3, receiving the nests of balls 2 and 4, in the manner and for the purposes specified.

No. 31,620.—JOHN PORTER, of Jefferson, Texas.—*Improved Steam Boiler.*—Patent dated March 5, 1861.—The detachable fire-box is made of boiler plate and double, so as to contain a water space in every part. The front part of the box and the fire-bridge are both upright, and hollowed out for the reception of the body of the boiler, and the sides, which extend upward to nearly the level of the top of the boiler, are curved to correspond with the boiler, spaces being left between the two.

Claim.—The detachable fire-box constructed of the form and applied in combination with the body of the boiler, substantially as described.

No. 31,621.—CHARLES POTTER, jr., of Westerley, R. I.—*Improvement in Printing Presses.*—Patent dated March 5, 1861.—On each end of the power shaft are crank-pins connected by rods to corresponding pins on the sides of the platen P, which is hung so as to vibrate on the oscillating shaft B. The said rods are of such a length and the crank-pins are so located that the bed E is brought into contact with the face of the form at each revolution of the shaft D.

Claim.—The combination of the oscillating platen and bed connected and operated as described, when the former is provided with a pin and the latter with a corresponding socket, operating together substantially in the manner shown, for the purpose of securing an accurate register and preventing slur, as described.

No. 31,622.—J. N. POWER, of New York, N. Y.—*Improved Method of Jointing Telegraph Connectors.*—Patent dated March 5, 1861.—The object of this invention, as set forth in the claim, is to apply the gutta-percha in such a manner as to prevent the enclosure of any water in the joint.

Claim.—In joining telegraph cables, the use of a sheet gutta-percha wrapper covered with India-rubber cement, in the manner and for the purpose shown and described.

No. 31,623.—S. S. PUTMAN, of Dorchester, Mass.—*Improved Curtain Fixture.*—Patent dated March 5, 1861.—The rolling motion of the journal on which the roll is hung is used to carry the spool, or a ratchet connected therewith, into contact with a stop which will hold the curtain in position, whilst a slight tension applied to the cord which operates the roll is sufficient to keep the spool or its ratchet from contact with the stop when lowering the curtain.

Claim.—A curtain fixture consisting of the bracket *b*, with its slot *f* and roll C, the journal *i* of which, by rolling along on the bottom edge of the slot, carries the roll or its spool into contact with a stationary stop, substantially as set forth.

No. 31,624.—D. F. RANDALL, of Hartford, Conn.—*Improvement in Tatting Frames.*—Patent dated March 5, 1861.—This invention consists of a frame having any convenient number of projecting pins over which the thread is passed and secured in a proper manner, so that the loops may be formed on the threads between the two upper pins for making that

class of trimmings called scalloped edging. The frame may be secured to a table by a screw clamp.

Claim.—As a new article of manufacture, the tatting frame described.

No. 31,625.—C. B. RICHARDS, of Brooklyn, N. Y.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—The rotation of the crank-pin causes the shuttle's point to approach the needle, which rises slowly, throwing out a loop, through which the shuttle then shoots, during which time the needle nearly passes the pin *e*, being pushed down into the slow-moving part of the lever B, near which it tingers for some time, on account of the crank then being on its "dead centre" relatively to the pin. After the shuttle has passed through the loop the needle rises quickly, and descends without retardation.

Claim.—The employment of a rocking shuttle-driving lever, operated by a crank and slide, or their equivalents, in the manner set forth, in combination with a pin, or its equivalent, attached to said slide, and driving the needle-arm substantially in the manner described.

No. 31,626.—F. B. RICHARDS, of Boston, Mass.—*Improvement in Enema Syringes.*—Patent dated March 5, 1861.—The flexible tube or pipe has a lateral perforation, into which passes the metallic connexion E, on which the bulb is fixed. This connexion is formed of two parts joined together by a male or female screw, on one of which is a shoulder, against which is pressed and held secure by the other screw the part of tube about the perforation.

Claim.—The new and improved bulb and tube connexion, as made in two separate tubular parts *b c*, and respectively inserted in or applied to the elastic bulb and the tube or connexion of the valve-chambers, and so as to operate therewith or connect the bulb and valve-chambers, substantially in the manner and for the purpose described.

No. 31,627.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Steam-Boiler Furnaces.*—Patent dated March 5, 1861.—Across the fire-box, and even with the top of the bridge, is thrown an arch, extending from the bridge back to the wall E, near the front tube-sheet. This arch is provided with openings, arranged at the sides of the box, for the admission of the gases of combustion to the mixing chamber. Opening from the space above the arch into the mixing chamber is a trunk, by means of which the lighter gases are prevented from accumulating in the upper part of the fire-chamber out of the circulation.

Claim.—The gas-mixing chamber B, constructed in rear of the bridge C, with a covering arch F and openings *d d* in the said arch, substantially as specified.

And, in combination with the chamber B, constructed as described, the trunk *e*, elevated above the said arch for the reception of the lighter gases, substantially as specified.

No. 31,628.—J. M. ROSE, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—This invention relates to such a modification of the common sewing machine as to enable the operator to work a button-hole in cloth with the ordinary hand-sewing button-hole stitch made with a single thread. The device can be readily attached to many of the machines now in use.

Claim.—First, a needle with a globular head *b*, wheel *c*, and hooks *d*, constructed and arranged as described, and for the purpose stated.

Second, the clamp *f*, with the sheet of rubber contained therein, when used for the purpose of giving rotation to the wheel *c*, for the purpose set forth.

Third, the arm *i*, in combination with the needle *a* and wheel *c*, when used in the manner and for the purpose specified.

Fourth, the wheel *c*, with its hooks *d*, in combination with the spring-holder *e* and head *b*, for the purposes shown.

Fifth, the spring-holder *e*, with the head *b* and groove *g*, when used and combined for the purpose of holding the needle in place, and at the same time permitting the thread to pass over the head *b*, and between it and the spring clamp *e*, in the manner and for the purpose shown.

No. 31,629.—J. H. SCOTT, of Millport, N. Y.—*Improved Steam-Valve.*—Patent dated March 5, 1861.—The upper half of the valve is cast hollow, with two ports directly opposite each other, through which the steam passes from the chamber Y to either end of the cylinder alternately by means of the tubes or pipes *a a*. On the under side of the valve is the exhaust chamber. The case is cast in one piece, with the cavity for the valve-seat and passages for the steam. The valve has its bearings on two set screws by means of a strap B, to which the friction is confined.

Claim.—The construction of the valve with the chamber *y*, ports *o o*, exhaust chamber E, and stem R, as set forth, in combination with the case *c c*, feed-pipe F, tubes or pipes *a a* and *x*, lever *r*, set screws *s s*, and strap B, the whole constructed and arranged substantially as and for the purposes described.

No. 31,630.—JOHN SEITZ, sr., of Bloom, Ohio.—*Improvement in Presses.*—Patent dated March 5, 1861.—The levers are attached to the shafts which carry the disks, in any radial position, by means of pins made to pass through apertures in the levers into corresponding perforations in the disks. The inner ends of the axis to which the disks are connected are

provided with pinions, operating upon rack-teeth on the follower. The outer ends of the levers are provided with boxes or frames for containing weights, by which means a continual pressure is exerted upon the follower to press the substance beneath it.

Claim.—The combination with the two loaded adjustable leaders J J, of the perforated disks 2 2, upon the same axis of motion as the levers, the said disks and levers being so combined and attached as to render the levers capable of adjustment, as described, and the disks and levers being upon the same axis of motion as the pinions which drive the follower, as described.

No. 31,631.—PETER SHEARER, of Reading, Pa.—*Improved Apparatus for Generating Power.*—Patent dated March 5, 1861.—This invention consists in the combination of a heater or heaters with a piston and surrounding cylinder, connected upon both sides of the piston to said heater or heaters, and a plunger or power piston enclosed in another cylinder, connected by a passage with the end of the first-named cylinder, in which cold liquid is received to be pumped through the heater and expanded. With these heaters is combined, by means of passages, an air-chamber, provided with a pump or pumps to provide the necessary supply of liquid. The fluid is caused to circulate through the heater, and then return and give out its expansive effect, for the purpose of facilitating the starting of the machine by means of valves in the auxiliary cylinders in connexion with the other parts. With the dampers in the flues and smoke-stack is combined a thermometric regulator, so that when the inordinate accumulation of heat at the heaters shall close the passage through which the heat is made available a valve is caused to open in the smoke-stack or flue, by which the heat is made to ascend without imparting its effect upon the heaters.

Claim.—First, the combination of the cylinder E, piston 31, piston S, and the heater or heaters, substantially as described, the parts being so constructed and arranged with reference to each other as to accomplish the result stated.

Second, the combination of the air-chamber D with the heater B, or other suitable device for heating fluid used for the purpose of maintaining proper and elastic pressure upon the fluid, as set forth, the heater and air-chamber being connected as stated, or in any other appropriate manner.

Third, the combination of the auxiliary cylinder I and piston 30 with the cylinder E and piston 31, for the purpose of facilitating the process of starting the machine, said pistons being connected to each other, and the cylinder I being provided with valves and other appendages, substantially as described, and accomplishing the purpose stated.

Fourth, the combination of the thermometric regulator *y*, or its equivalent, with dampers *r* and *q*, arranged in connexion with the smoke-stack or chimney and the flues, substantially as described, for the purpose stated.

No. 31,632.—HERMAN SHLARBAUM, of New York, N. Y.—*Improvement in Water-Gauges for Steam-Boilers.*—Patent dated March 5, 1861.—The object of this invention is to obviate the difficulties incident to the use of stuffing-boxes, which involved many inconveniences, and resulting in the early cracking of the glass tube.

Claim.—Connecting the glass tube thereof with the metallic parts by means of India-rubber sleeves or muffles, substantially in the manner as set forth.

No. 31,633.—S. B. SHULTZ, of Princeton, Ill.—*Improved Shop Bin, or substitute for Drawers.*—Patent dated March 5, 1861.—This invention consists in placing the drawer on a cross-piece in such a way that it may be tilted outwardly, and its contents rendered accessible, instead of being drawn out, as usual.

Claim.—Arranging or placing a drawer B within its case or box A on a cross-bar C, or its equivalent, to admit of the opening and closing of the drawer by the tilting of the same, substantially as set forth.

No. 31,634.—E. G. STEVENS, of Biddeford, Me.—*Improvement in Enema Syringes.*—Patent dated March 5, 1861.

Claim.—The valvular mechanism described for reversing the currents, consisting of the valve-seat case, with its openings S S', the conical valve-seat, with its valves *o v*, as shown in Figs. 1 and 2, the screw *p*, neck *r*, when used in combination with the pipe B C and bulb D, or their equivalent, substantially in the manner set forth and specified.

No. 31,635.—V. T. STUART and C. E. STEWART, of Fayette county, Tenn.—*Improvement in Straw-Cutters.*—Patent dated March 5, 1861.—This machine is designed to be self-feeding, by means of a spring operating a lever having at one end a rope attached to it, the other end of the rope being connected to the rod of a plunger pressing against the article to be cut.

Claim.—The arrangement of the plunger I, rope H, lever G, and spring F, when used in connexion with the cutters A A and plates C and D D, as and for the purpose substantially as set forth.

No. 31,636.—C. E. TOOP, of New York, N. Y.—*Improved Washing Machine.*—Patent dated March 5, 1861.—The two side rails which form the outside of the reciprocating bed are grooved or corrugated, so as to tend to throw the clothes into the centre of the bed.

Claim.—First, the combination of the corrugated bed 1 and corrugated washboard 3, arranged as described, with the gearing for giving motion to said bed, the whole being so arranged and combined as to violently agitate the clothes at the same time that they are gradually turned over, so as to bring a different portion of the mass successively in contact with the washboard and bed.

Second, the combination, with the above-mentioned devices, of the two rails or side-pieces 2 2, corrugated as described and represented for the purpose specified.

No. 31,637.—G. R. WALKER, of Washington, D. C.—*Improvement in Corn-Huskers.*—Patent dated March 5, 1861.—The ears of corn, being placed on the forward endless apron, are fed to the receiving wheel provided with projections, between which the ears lie, the latter being held upon the wheel by an endless apron. The buts of the ears are made to press, by means of springs, against a grinding-wheel having teeth on its surface, and so arranged as to revolve in a direction opposite to that of the receiving-wheel. The ears are then passed off upon a hinged apron, armed with teeth, to remove any remaining husks.

Claim.—First, the employment of a grinding-wheel to remove the buts of the husks, in contradistinction to a wheel armed with cutters, said wheel also serving as a guard for the ears of corn, substantially as described.

Second, the combination of the grinding-wheel B, cogged wheel A, and springs C, or their equivalent, substantially as described.

Third, the combination of the endless apron L, wheels A and B, endless aprons D and O, springs C, and hinged apron J, the whole being constructed and operated in the manner and for the purpose set forth.

No. 31,638.—N. D. WETMORE, of Cleveland, Ohio.—*Improvement in the Mode of Preserving Butter*—Patent dated March 5, 1861.—The object of this invention is to keep the butter cool, and entirely exclude it from the action of the atmosphere.

Claim.—The mode of preserving butter by compressing it in vessels, and then hermetically sealing the joints at C and H, and then encasing the whole with gypsum when in a plastic state, all in the manner and for the purposes described.

No. 31,639.—D. A. WOODWARD, of Baltimore, Md.—*Improvement in the Mode of Operating the Reflector of a Solar Camera.*—Patent dated March 5, 1861.—This invention consists in combining with the pivotal axis of the mirror a short lever and connecting rod, so that its angle of inclination may be varied with great accuracy, and comparatively without force or friction; and with the revolving collar to which the mirror is attached is combined an adjustable rail, to be spanned by a traverser on the rod connected with the lever on the side of the mirror, by means of which the necessary varying inclination of the mirror, in its revolution, may be regulated throughout the day at any season of the year; and when once set the variation from day to day is easily adjusted.

Claim.—First, the arrangement and combination of the pivotal axes of the mirror with the lever G and connecting rod H, for elevating or depressing the mirror, substantially as specified.

Second, combining with the revolving collar B the adjustable rail I, and its traverse *e*, substantially as and for the purposes set forth.

No. 31,640.—A. R. WYETH, of West Middletown, Pa.—*Improvement in Tanning.*—Patent dated March 5, 1861.—This invention is explained by the claim.

Claim.—The described process for tanning hides or skins, consisting in first soaking them in a warm solution of potash and salsoda; then, after rinsing, working, and sweating, subjecting them to the vapor of spent damp tan bark, damp horse dung and rotten wood; then soak them in a tanning liquor composed of bark solution, sumach, divi-divi, and alum, which liquor is afterwards strengthened with japonica, glauber salts, and common salts, all in the manner and in the proportions set forth and described for the purpose specified.

No. 31,641.—T. C. ZULICH, of Schuylkill Haven, Pa.—*Improvement in Potato-Diggers.*—Patent dated March 5, 1861.—The inclined cylindrical screen is made of a coarse mesh-work of wires, and rotates upon a central shaft. Around this shaft is coiled a spiral or screw conveyer, which receives the potatoes at the front end and gradually moves them through the cylinder in contact with the screen, which allows the earth to pass through, the potatoes being discharged in the rear.

Claim.—Combining with an inclined cylindrical screen D, as described, the spiral or screw conveyer K, substantially as and for the purposes described.

No. 31,642.—J. E. EARLE, of Brooklyn, N. Y., assignor to Himself and SAMUEL HATHAWAY, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—This invention consists in applying to sewing machines an arrangement of lever springs connecting directly or indirectly with the power used in driving the machine, said arrangement being operated by the thread in such a manner that when the thread breaks or becomes too slack the power will become disconnected from the machine without necessarily stopping the power, but positively stopping the machine without the assistance of the operator.

Claim.—The combination of the needle-arm *a*, pulley-clutch F, levers G, H, and K, and trip I, constructed, arranged, and operating substantially as set forth, to disconnect the power on the loosening of the thread.

No. 31,643.—T. G. HARGLD, of Brooklyn, N. Y., assignor to Himself and G. L. KELTY, of New York, N. Y.—*Improved Curtain Fixture.*—Patent dated March 5, 1861.—One of the brackets which holds the curtain-roller has a pin affixed to it, on which is swung a curved lever provided with a tapering blocking-piece or stop. The cord passes through a hole in one end of the lever, the other end moving upon a pin as a centre. The tapering blocking-piece is caused to enter between two sides of the spool, and jams so as to prevent the spool from turning, and is released upon pulling the cord to raise or lower the shade.

Claim.—A lever *e*, fitted upon a pin, and guided by the spool on the curtain-roller in such a manner that the lever is always kept in its correct position for stopping the curtain regardless of the position of the spool relatively to the bracket.

Also, arresting the movement of the spool and curtain by a blocking piece, pall, or stop passing in between and acting against the sides of the spool.

No. 31,644.—L. W. LATHROP and L. B. JUSTICE, of Philadelphia, Pa., assignors to L. W. LATHROP, aforesaid.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—First, passing a loop of needle thread over a stationary spool-case containing an ordinary spool by means of a continuously-revolving hooked ring adapted to receive the said spool-case, when the latter, as well as the ring and its hook, are so constructed that the loop, in passing over the case, shall be free from contact with the edge of the case, as well as with the inside edge of the ring, as set forth for the purpose specified.

Second, the reciprocating hook, arranged and operating as set forth so as to control the loop of needle thread after it has passed over the spool, and prevent it from being twisted, knotted, or otherwise disarranged, as it is being drawn into the fabric.

No. 31,645.—CLARK MARSH, assignor to the WHEELER & WILSON MANUFACTURING COMPANY, of Bridgeport, Conn.—*Improvement in Hemming-Guides for Sewing Machines.*—Patent dated March 5, 1861.—This invention consists in constructing the hemmer in the form of a foot-plate, which can be applied to or detached from the presser foot-shank, in the place of a plain foot-plate, without the necessity of removing the foot-shank from the machine. The hemmer is held by the jaws of the foot-frame, without the necessity of employing a screw or snap-catch for the purpose.

Claim.—A hemmer foot-plate, constructed substantially as described, and capable of being secured to and detached from the shank of the presser-foot of a sewing machine, substantially as described.

No. 31,646.—JOHN MOULSON, of Philadelphia, Pa., assignor to A. B. ELLIOTT, of Troy, N. Y.—*Improvement in Sewing Machines.*—Patent dated March 5, 1861.—The transparent foot-plate is made of polished glass, in the form of a disk or lens, to fit the frame, and is perforated to permit the needle to play through it. It is held in place by a groove in the frame. The foot-plate, when made of convex form, serves to magnify the work beneath it.

Claim.—A transparent presser-foot for a sewing machine, which is a combination of a transparent foot-plate with a shank by means of a frame that holds the foot-plate and connects it with the shank, substantially as described.

Also, the combination of a presser-foot frame with a transparent perforated foot-plate of convex form, substantially as and for the purpose described.

No. 31,647.—ORSON PARKHURST, assignor to H. D. FULLER and R. SAFELY, of Cohoes, N. Y.—*Improvement in Knitting Machines.*—Patent dated March 5, 1861.—This device is designed to be attached to what is known as Bailey's Circular Knitting Machine. The lower end of the lever C is bent inward and pointed, and is so fitted as to run along the surface of cloth just below the point of the needles, and to enter into any breach occasioned by the want of a stitch, or whenever the fabric is enlarged at its edge outward, when the upper part of the lever C becomes disengaged, and the outer end of the vibrating lever drops between the pins on the outer ring, causing the disengagement of the power and consequent stoppage of the machine.

Claim.—The combination of the vibrating lever E with the lever C, its adjusting weight W, and point *g*, operating to and with each other in manner and form as described, so as to disengage the operating power through ring R, upon the dropping of a stitch or loading of the needles, or any false operation of the machinery by which the integrity of the fabric knit is affected, substantially as the same is set forth and described in the specification.

No. 31,648.—G. E. VANDERBURGH, assignor to the LIQUID QUARTZ COMPANY, of New York, N. Y.—*Improvement in Silicated Soaps.*—Patent dated March 5, 1861.—This soap is made by reducing any of the known soaps of commerce to a fluid state and adding thereto any desired proportion of liquid silicate.

Claim.—The use of a liquid silicate in the production of an improved quality of soap; but this only when the liquid silicate thus employed contains by weight a larger proportion of silex than it does of the alkaline base of the same.

No. 31,649.—TURNER WILLIAMS, assignor to Himself and DAVID HEATON, 2d, of Providence, R. I.—*Improvement in Converting Reciprocating into Rotary Motion.*—Ante-dated September 5, 1860.—Patent dated March 5, 1861.—The under side of the rim of the pulley wheel is made to present two flat circular paths *g g*, to be travelled by the pawls *e s*. These pawls are formed with a foot projection, at right angles with its shank, in the direction intended for the wheel to revolve, and are caused to produce, alternately, a nipping action on the rim of the wheel, and communicate motion received from the treadle; one pawl taking up and continuing the motion, while the other retreats preparatory to transmitting a successive movement to the wheel in its turn.

Claim.—The peculiar friction pawls *e* and *s*, constructed in the manner substantially as described, for the purpose specified.

Also, the combination of the said friction pawls, or their equivalent, with the surfaces *g g* of the driving wheel, arranged and operating substantially as described, for the purpose set forth.

No. 31,650.—CARLOS GARCIA, of New Orleans, La., administrator of the estate of FELIX GARCIA, deceased, late of same place.—*Improvement in Decalcifying Liquids.*—Patent dated March 5, 1861.—This invention consists in treating saccharine and other liquids first with an excess of lime and afterwards with soap, so that by the action of the lime the impurities contained in the liquid are separated from the same, and by the subsequent action of the soap the lime, together with the impurities, is reduced to such a state that they can easily be separated from the liquid, leaving the latter in all its purity.

Claim.—The within-described method of treating saccharine and other liquids, first with an excess of lime and afterwards with soap, substantially in the manner and for the purpose set forth.

No. 31,651.—H. D. DEMING and P. G. WALKER, of Delmar, Pa., assignors to P. G. WALKER and WESLEY PITTS, of Charleston, Pa.—*Improvement in Animal Traps.*—Patent dated March 5, 1861.—This invention consists of a circular box provided with partitions fixed to a central shaft, to which is attached a coiled spring. A ring, which connects the partitions, is provided with a series of notches, into which catches a tripping lever, to prevent the spring from unwinding. By means of a trip which actuates the lever, the partitions are successively rotated, which is done whenever an animal enters the trap, thus securing the same, while the trap continues set for another animal, and so on until the compartments are filled. An index may be attached to the box, to show how many times the trap has sprung.

Claim.—The construction and arrangement of the above-described trap, the same being provided with the index T and trip H, and having sheet metal side wall, rotary partitions, and coiled springs, all combined and operating together substantially as set forth, for the purposes described.

No. 31,652.—J. H. BELL, of Chelsea, Mass.—*Improved Stove-pipe Connexion.*—Patent dated March 12, 1861.—This invention consists of a cylindrical or other proper shaped box, closed at both ends, and having elongated openings made on opposite sides, over which are fitted sliders moving in parallel guides, each slider being provided with a pipe joint, by which means pipes of different heights may be connected, or a stove opening readily adapted to an opening made in a chimney.

Claim.—The specified improved stove-pipe connexion, as composed of the box A and the two adjustable joints B C, constructed, arranged, and combined together, substantially in manner and so as to operate as explained.

No. 31,653.—I. A. BENEDICT and G. W. CUMMINGS, of Conneaut, O.—*Improved Ditching Machine.*—Patent dated March 12, 1861.—About the middle of the length of the main frame is arranged the shovel or plough, which consists of two side plates, for forming the ditch. At the rear of the inclined bottom of the ploughs is secured a curved guard, inclined towards the right-hand side of the machine, and on the right-hand side of this curved guide, and supported on standards, is a shaft which carries a number of radial arms, securely braced together, and having on each end a shovel, the edges of which are inclined so as nearly to touch the guard-plate in their revolution, and earth elevated by them will slide off as they pass above the side plate.

Claim.—The inclined rotating shovels *k k k k*, constructed as described, in combination with plough G, inclined and curved guard H, and the inclined side guard I, all arranged and operating as and for the purposes set forth.

No. 31,654.—L. D. BURCH, of Sherburn, N. Y.—*Improvement in Ploughs.*—Patent dated March 12, 1861.—The coulter is connected to the beam of the plough by means of bridle pieces, so as to be readily changed from one side to the other of the beam, by moving it to a

horizontal position and allowing it to slide on a rod. The coulter may be adjusted laterally by means of a cord operated by the attendant.

Claim.—The perforated coulter A, nearly balanced on its axis of oscillation, braced and supported at its upper end, so constructed and arranged as that it may be adjusted vertically and laterally by an attendant, and at the same time oscillate sufficiently to allow stone or other obstructions to pass freely between the point of the plough and the lower extremity of the coulter, substantially in the manner and for the purposes set forth.

No. 31,655.—JOSEPH CORDUAN, of Brooklyn, N. Y.—*Improvement in Lining Journal Boxes.*—Patent dated March 12, 1861.—A piece of horn of the desired shape is boiled in oil and water until it is soft and pliable, when it is pressed into a recess in the journal box.

Claim.—The lining of a metallic journal box with horn, substantially in the manner described.

No. 31,656.—JONATHAN CREAGER, of Cincinnati, O.—*Improvement in Machines for Turning Irregular Forms.*—Patent dated March 12, 1861.—This invention relates to an automatic provision for forming spokes and other irregular objects, by means of a spindle pattern and gauge of a lathe for turning irregular forms, in connexion with a cutter rotated on its own axis, at right angles to the axis of rotation of the spindle. The head of this cutter has a hemispherical form, or nearly so, and has deep spiral channels from its apex backward, the cutting edges of its bits forming, collectively, a nearly continuous arc of the hemisphere.

Claim.—The combination with the spindle D, pattern C, and gauge J, of a machine for turning irregular forms; of the cutter G H I, having a hemispherical or approximately hemispherical contour, and rotated on its axis at right angles to the axis of rotation of the spindle D, substantially as and for the purposes set forth.

No. 31,657.—J. A. CUTTING, of Boston, Mass.—*Improvement in Aquaria.*—Patent dated March 12, 1861.—The air reservoir consists of a cylindrical or other shaped vessel, partially filled with water, within which is inserted another vessel so as to play freely up and down. The inner vessel is supplied with air, and being allowed to descend gradually, forces the air through a flexible tube into the aquarium.

Claim.—The combination of a tank or aquarium for containing water, fishes, aquatic plants, &c., with a reservoir of air, said reservoir so operating as to gradually force into and keep up a supply of air in the said tank, as set forth.

No. 31,658.—R. DANIELS and G. P. COBB, of Woodstock, Vt.—*Improvement in Bee-Hives.*—Patent dated March 12, 1861.—The several comb-frames are suspended on shoulders in the central portion of the hive. Across any portion of these frames are stretched and secured three or more wires, so as to allow the bees to form a large comb without impeding their progress. The combs may be held in the frames by means of small needles pressed through the frame.

Claim.—Providing the removable and replaceable comb-frames, constructed as described, with guide-blocks, for so guiding all portions of these frames in placing them in and taking them out of the hive as to prevent the comb in the frames and the frames themselves from contact with the hive or comb and honey of the next contiguous frames, and preventing the bees uniting their comb to both hive and frame.

Also, providing the comb-frames with small wires for effectually sustaining the comb, and around and on to which the bees may build and unite their comb without impeding their progress.

Also, providing the comb-frames with movable needles, for securing the comb after being placed therein from the common hive.

Also, providing the comb-frames with their ribs L, fixed around and on the inside and central portion of the comb-frame, to facilitate the commencing of the comb by the bees and continuing their work, and in securely retaining the comb when formed.

No. 31,659.—F. P. DIMPFEL, of Philadelphia, Pa.—*Improvement in Friction Gearing for Machinery.*—Patent dated March 12, 1861.—The driving wheel is constructed with a strong rim or flange, upon the internal surface of which two intermediate pinions have their tread, communicating motion to a centre pinion, which latter moves with an accelerated rotary speed. The intermediate pinions have stud journals, which work in slots, as also does the centre pinion. When it is desirable to increase the friction, a spring may be used, and as the journal of the centre pinion is pressed in, the intermediate pinions are forced against the rim of the driving wheel. This device may be applied to propelling blowers on board of steamers when the driving wheel is attached directly to the engine.

Claim.—First, the application and use of friction gearing, constructed and arranged in the manner and for the purpose described.

Second, the described arrangement, in combination with a blower, for the purpose of economizing space and power.

No. 31,660.—LEVI DODGE, of Waterford N. Y.—*Improvement in Forming and Punching Articles of Irregular Forms.*—Patent dated March 12, 1861.—The forming matrices are

pivoted to the head block, and between them is fixed a bed-piece, which is embraced by the recessed ends of the matrices as they close upon the bar of metal used to form the axe-poll. The cross-head is made to slide up and down upon guides. The lower ends of the matrices move over inclined planes on the pillar-blocks, causing the matrices to close upon the metal. A punch fixed upon the base-block punches out the eye of the axe-poll as the closed matrices descend.

Claim.—In the manufacture of axes of a swelled form, punching the eyes of the same when enclosed in conforming dies made to open and close upon such swelled forms, substantially in the manner set forth.

Also, combining the punch with said dies, in the manner set forth.

No. 31,661.—A. S. EASTHAM, of Wharton, Texas.—*Improvement in Cotton-Cleaners.*—Patent dated March 12, 1861.—This invention consists in an arrangement of a series of revolving brush cylinders in connexion with a card cylinder, stationary brush, and stripping boards, and wire screens, for the purpose of separating dust, dirt, hulls, &c., from cotton, preparatory to its being ginned.

Claim.—The brush cylinders D G J, brush boards E F H I, and the oblique boards K, arranged relatively with each other, as shown, in connexion with the combined fans and brush cylinders O O O, stripping boards Q, and concave screens L L' P, and card or brush cylinder M, all arranged for joint operation, substantially as and for the purpose set forth.

No. 31,662.—W. B. GOODRICH, of Ashley, O.—*Improvement in Apparatus for Evaporating Sugar Solutions.*—Patent dated March 12, 1861.—As the boiling juice forms a current towards the projecting side, the excrementitious matter will rise with the juice and be thrown off into the projecting pan, which, being inclined, will return the juice to the bottom of the main pan, the perforated partition acting as a skimmer.

Claim.—The employment of the supplementary pan B, raised above the bottom of the main pan projecting beyond the fire space provided with an inclined bottom, and separated from said main pan A by means of a gauze partition D, for the purpose of preventing the scum and sediment from mingling with the body of the syrup when agitated by ebullition, substantially as specified.

No. 31,663.—WALTER HART, of Philadelphia, Pa.—*Improved Egg-beater.*—Patent dated March 12, 1861.—This invention consists in placing within a tube which carries the screw-thread, wires, and beaters, a rod having a handle at the top, and a disk at the bottom, so that, in operating the beaters, the rod shall be stationary, and form a steady support for the beaters.

Claim.—The tube B, its screw-thread, the nut D, and beaters or dashers *b*, in combination with the internal rod G, and its disk or button *c*, the whole being constructed and arranged substantially as and for the purpose set forth.

No. 31,664.—L. W. HAYDEN, of Wilkesbarre, Pa.—*Improved Machine for Crimping Boots.*—Patent dated March 12, 1861.—The rack-bar has secured to its upper part the form upon which the leather to be crimped is placed. The clamps are made to draw the leather down upon each side by means of a treadle, which is then secured by teeth on a plate, when the bars D are pressed upon the leather by means of a screw.

Claim.—The employment of the rack-bar G, and the bars D D, as constructed, the clamps *a a*, the straps *d d*, the treadle *e*, clamp E, chuck R, and set screw N, arranged and connected to form a machine for crimping leather, substantially as specified.

No. 31,665.—C. W. S. HEATON, of Salem, Ill.—*Improvement in Cultivators.*—Patent dated March 12, 1861.—This invention consists in constructing the end and side pieces with mortises or slots in such a manner that the shovels may be arranged in various positions and removed a greater or less distance from the main beam. The standards and braces are also made adjustable as to height and degree of inclination.

Claim.—The arrangement of the slotted adjustable cross-pieces B B', reversible adjustable braces F F', and adjustable standards D D', with the curved main beam A, deflecting rod I, and cross-pieces C C, in the manner and for the purposes shown and described.

No. 31,666.—C. H. HELMS, of Poughkeepsie, N. Y.—*Improved Machine for Trimming Heels of Boots and Shoes.*—Patent dated March 12, 1861.—The cutter knife is secured to the rotary cutter stock, a loose roller filling the space between the cutter and the face of the carriage, and running on a shoulder on the back of the cutter stock. The heel-plate is placed in line with the roller and rotates with it; it is also centred and turns on a pivot in the carriage. The journal of the cutter stock has its bearing in an elongated box projected from the standard, corresponding openings being made in the carriage for its projection.

Claim.—The arrangement of the heel-plate I, and centring pin *b*, with the rotary cutters G, in the manner and for the purposes shown and described.

Also, the arrangement of the cutter stock with the carriage B, as shown and described—that is to say, the stock passing through a slot in the carriage, but leaving the cutter free to move, all as set forth.

No. 31,667.—J. G. INSKEEP, of West Middleburg, O.—*Improvement in Field Fences.*—Patent dated March 12, 1861.—By having the boards or strips *a'* notched in a reverse manner to the strips *a*, the panels cannot be detached by simply raising one of them, as might be done by unruly cattle. The interlocked ends of *a'* require to be first disengaged by removing the pins which pass through the end battens, and turning the boards on their bolts in the centre battens. A wedge is driven in the recess of the adjoining ends of the panels to form a close, firm joint.

Claim.—The upper and lowermost notched boards or strips *a* of the panels in connexion with the adjustable reversely notched boards or strips *a'*, and the wedge B, arranged substantially as and for the purpose set forth.

No. 31,668.—G. W. JENNINGS, of Boston, Mass.—*Improvement in Mowing Machines.*—Patent dated March 12, 1861.—The saws rest upon the bed-plate and are moved by connexions acted upon by a groove in a cam block, the under saw being connected at one point of the cam groove, and the upper saw at the opposite point, causing them to move in opposite directions, and in relation to each other double the distance that the connexions traverse, thus imparting great velocity to the cutters.

Claim.—The arrangement of the cam wheel E, shaft *e*, driving wheels B B, bed plate A, and cutters D D', provided with the arms and friction rollers *b* and *c*, working in the cam groove *a*, the several parts being combined in the machine and operating in the manner and for the purpose specified.

No. 31,669.—J. H. LANDIS, of Eden, Pa.—*Improved Meat-Chopper.*—Patent dated March 12, 1861.—The choppers, which work in a revolving box, are secured to elastic arms or strips of wood operated by pins on a revolving disk. The rear ends of these strips of wood are mortised into a block pivoted at each end to two uprights. In the top of this block is inserted a bent lever by which the block with the choppers can be turned over out of the way, and by means of a strap on the forward end the lever may be held in a depressed position so as to regulate the force of the choppers to any required degree.

Claim.—The chopper-fulcrum G, revolving on pins H, in combination with the lever-arm F, and its strap I, and hook J, when made substantially as set forth for the purpose specified.

No. 31,670.—H. J. LOMBAERT, of Philadelphia, Pa.—*Improvement in Draught-Bars for Railroad Cars.*—Patent dated March 12, 1861.—The draught-bar may consist of two iron rods or of a single flat bar slotted so as not to interfere with the king-bolts. The bar extends beyond each end of the car, and is provided with a buffer at each end. Springs are secured to the bars so as to bear against the front and rear sides respectively of the two bolsters, by which means a train of cars will not be varied in length more than the variation incident to any one of the cars upon its respective bar.

Claim.—A draught-bar for railroad cars, consisting of the rigid bar or bars D, buffer-heads F F, and springs E E, the same being constructed and arranged together in combination with the bolsters B B, so as to operate in the manner described.

No. 31,671.—M. B. LORD and S. J. LORD, of Ellsworth, Me.—*Improvement in Brakes for Sleighs.*—Patent dated March 12, 1861.—This invention consists in the arrangement of two hinged cams or teeth, one on each runner, and connected to arms which are attached to the draught-pole in such a manner that the teeth are forced down into the ground as the sled, in going down hill, crowds upon the team, the object being to prevent the sled from sliding and running against the team in descending hills.

Claim.—The arrangement of the cams *d*, pivoted to the end of the sliding arms E, and operating in combination with the cranks *a* and with the draught-pole D, in the manner and for the purpose specified.

No. 31,672.—JOHN LOUDON and H. IVERSEN, of New York, N. Y.—*Improvement in Ventilators for Windows.*—Patent dated March 12, 1861.—The sockets are designed to hold panes of glass, and are made with hollow centres punched up similarly to eyelets, which enter perforations in the frame, and are spread like eyelets, so as to be securely held and allowed to turn on the centres. The slats are also connected to a bar by eyelet centres, by which they are simultaneously opened and closed.

Claim.—The metallic sockets *a a*, formed with eyelet centres, secured in a metallic frame and receiving slats *c c* of glass, or other material, as set forth.

Also, the bar *d*, attached to said metallic sockets *a a* by the eyelet centres 2 2, as set forth, for moving the said slats to open or shut the same, as specified.

No. 31,673.—G. A. MITCHELL, of Turner, Me.—*Improved Tip for Boots and Shoes.*—Patent dated March 12, 1861.—This invention consists in forming the tips of boots or shoes with a slot in their frontal part, to prevent the accumulation and retention of water, dirt, snow, &c., between the tip and the leather. The portion of the tip which is placed between the soles is also slotted, so as to allow the tip to yield laterally to conjoin with the various thickness of leather used.

Claim.—My described boot and shoe tip, constructed, slotted, and applied essentially in the manner and for the purposes fully set forth and described.

No. 31,674.—P. C. PERKINS, of Waterford, N. Y.—*Improved Punching and Shearing Machine.*—Patent dated March 12, 1861.—In an upright stationary framing is placed a rectangular sliding frame, the side-pieces of which work through horizontal cross-pieces of the stationary framing, the cross-pieces serving as guides and also as bolster plates. To cross-bars in the sliding frame are attached pendant punches and shears, the cross-bars working up and down over the bolster plates, which have holes corresponding with the punches, by which arrangement a variety of punches and shears of different kinds may be used.

Claim.—The construction of the frame A, with a series of bolsters C, and the frame B, with a series of cross-bars *e*, to carry, respectively, punches, dies, stampers, or shears, when the above parts are arranged to operate together in the manner shown and described.

No. 31,675.—BYRON RICE, of Schuyler, N. Y.—*Improvement in Grain-Separators.*—Patent dated March 12, 1861.—The concave is provided with arms projecting through slots in the sides of the framing, and by means of wedges is adjusted relatively to the toothed cylinder. A vibratory motion is imparted to the sieves by means of a lever actuated by a cam or trip attached to the fan-shaft. To the rear end of the concave are secured crooked prongs extending over the shoe, for the purpose of agitating the straw and shaking out the grain. A guard is placed over the shoe, to prevent the grain from being thrown beyond the sieves.

Claim.—First, the arrangement of the sieves I I′, concave D, provided with arms F, cams N, and lever M, in the manner and for the purposes set forth.

Second, the combination and arrangement of adjustable concave D, crooked prongs H H, and guard R, operating in connexion with the shaking shoe J, in the manner and for the purpose set forth.

No. 31,676.—M. M. ROUNDS, of New Haven, Conn.—*Improvement in Furnace Grates.*—Patent dated March 12, 1861.—This grate is composed of a series of two or more parallel shafts in a frame, each shaft being provided with two ranges or sets of arms or bars, extending each side. Two series of stationary arms or comb-grates are also arranged at the ends of the frame. Extending below each rocker-shaft is an arm jointed to a horizontal bar, one end of which is attached to a lever, by which means the bars are put in motion, shaking the fuel and freeing it of ashes, or the contents may all be discharged.

Claim.—The improved grate or combination of stationary comb-grates and rocker-grates, arranged in relation to each other and made to operate together substantially in manner and for the purpose as described.

No. 31,677.—ISAAC RULOFSON and D. DE GARMO, of Rochester, N. Y.—*Improvement in Ploughs.*—Patent dated March 12, 1861.—The handle plate of the landside of the plough extends up to the under side of the beam, and is connected to the top of the standard by means of a plate on which are cast rests for the beam; these rests are provided with slots through which pass the clamping bolts, and thus a lateral or oblique adjustment may be obtained.

Claim.—The arrangement of the beam B, plate *f*, rests *u* and *v*, slots *c*, and clamping bolts *b*, the whole being constructed substantially in the manner shown and described.

No. 31,678.—A. T. SERRELL, of New York, N. Y.—*Improved Binding Roller for Rotary Planers.*—Patent dated March 12, 1861.—This invention consists in the combination of a movable feeding roller with two adjustable stationary rollers, so located and acting in connexion with a rotary cutter, that the said cutter will produce a moulding or bead upon an irregular or curved strip of wood, the movable feeding roller not only causing the wood to progress regularly, but also acting to keep the same down to the bed, in consequence of the oblique serrations formed on its edge.

Claim.—The feed-roller *g*, formed with serrations upon its edge which are oblique to the surface of the bed upon which the wood moves, so that the action of the rotary cutter upon said wood shall cause the same to remain firmly upon said bed, as set forth.

Also, the rollers *e e*, in combination with the aforesaid serrated roller *g* and rotary cutter *c*, in the manner specified, for the purpose of planing curved mouldings, as set forth.

No. 31,679.—J. P. SIMMONS, of Fulton, N. Y.—*Improvement in Packings for Barometers.*—Patent dated March 12, 1861.—The chamois leather is saturated in a solution of gum shellac in alcohol, combined with about an equal part of isinglass, of sufficient thinness to become absorbed in the pores of the skin. The skin is then placed upon the tube and forced into the socket, and when the shellac has become dry and hardened, a layer of gas cement is applied.

Claim.—The described process of preparing chamois leather or equivalent material, to serve as a packing for hermetically sealing the joints of barometers, and other similar purposes, substantially as specified.

No. 31,680.—J. S. SMITH, of Brooklyn, N. Y.—*Improvement in Cartridge-Boxes.*—Patent dated March 12, 1861.—The case of the cartridge-box is constructed of a series of vertical tubes of sufficient height to receive two cartridges, one on top of the other. Each of these tubes is provided with a slot extending from the top to about the middle of its height, and the

cartridges are inserted in such a manner that their upper ends project through the slots, so that they can be easily taken out. The tubes are constructed of two strips of metal, each forming a series of half circles, so that by placing them together the tubes are formed, and are secured together by staples catching over their edges.

Claim.—The employment, in combination with a cartridge-box C, of a tin case A, constructed of a series of slotted vertical tubes B, substantially in the manner and for the purpose specified.

Also, the described manner of constructing the tubes B out of corrugated strips *b*, connected by staples *c*, as set forth.

No. 31,681.—DAVID SPRAGUE, of Elizabethport, N. J.—*Improved Punching Machine.*—Patent dated March 12, 1861.—On the end of the cam-shaft is formed eccentrically a smaller shaft or cam-stud, which is made to fit in a slot in the end of the die piece, by which means a reciprocating vertical motion is given to the die.

Claim.—The removable die F, with a slot *f*, in combination with the cam *a* on main cam-shaft B, the whole constructed and operating as described for the purpose set forth.

No. 31,682.—J. B. TURNER, of Jacksonville, Ill.—*Improvement in Cultivators.*—Patent dated March 12, 1861.—The parts are so arranged and constructed as to enable the driver from his seat to give the main frame a lateral adjusting movement by actuating the triangular frame, and also to elevate the cultivators when necessary, by adjusting his seat. The cutters level the ground and prepare smooth tracks for the rollers, which may be adjusted laterally. A guard-frame is used to prevent the clods of earth from falling upon the plants.

Claim.—First, the arrangement of the frame A, with the draught-pole B, triangular frame D, and bar C, substantially as shown, to admit of the independent lateral movement of the frame A, as set forth.

Second, the arrangement in the described connexion with a cultivator of the double-tree E and stirrups G G, connected by chains F, the stirrups being fitted loosely on the rod H, at the front part of the frame A, to prevent the draught mechanism interfering in the least with the adjusting movement of frame A, and to render the line of draught perfectly adjustable.

Third, the combination of the hinged guard-frame K, chain *p*, and seat I, constructed, arranged, and operating in the manner and for the purposes set forth.

Fourth, the combination of the curved bars O and *w*, and sliding collar P, constructed and operating as described to adjust the height of the ploughs K″.

Fifth, the employment or use of the adjustable cutters or scrapers L L, applied to the frame A and in front of the rollers M M, for the purpose set forth.

Sixth, the arrangement of the driver's seat I, with the cultivator frames J J and guard-frame K attached, in connexion with the adjustable bar *q*, as and for the purpose specified.

No. 31,683.—WILLIAM STRIEBY, of Wagontown, Pa.—*Improvement in Cultivators.*—Patent dated March 12, 1861.—This invention consists in a main beam having two teeth and two hinged vanes or shares rendered adjustable by means of hooked rods and a perforated plate in combination with side beams having teeth, and so connected to the main beam as to be adjusted laterally as well as vertically, in order that the relative position of the teeth and vanes may be altered every time the machine is drawn over the same track, thus effectually turning up, breaking, and spreading the soil.

Claim.—The beam A, its teeth *e* and *f*, and its hinged shares or vanes *h* and *h′*, the latter being rendered adjustable by the hooked rods *i* and perforated plate *j*, and their teeth *m* and *n*, when the said beams are so connected to the beam A as to be adjusted laterally as well as vertically by means of the devices described or their equivalents, and when the whole of the above-mentioned parts are arranged as and for the purpose set forth.

No. 31,684.—G. A. WALKER, of Annville, Pa.—*Improvement in Ploughs.*—Patent dated March 12, 1861.—The shank of the plough point is of tapering form, the upper and lower sides being concave or grooved so as to fit in a corresponding recess in the landside. When one side of the point is worn, it may be readily removed and reversed within the recess, thus rendering it self-sharpening.

Claim.—The arrangement of the defachable and reversible plough point B, with landside recess D, said point having a tapering shank C, with concave upper and lower edges *d d*, and being otherwise constructed as described.

No. 31,685.—P. P. WARRINER, of Holland Patent, N. Y.—*Improved Table.*—Patent dated March 12, 1861.—To the under side of each leaf is attached a segment bar which passes through an aperture in the side of the table. In each side rail is a recess in which a curved lever is fitted and attached by a cord to a knob fitted in one end of the table. To each lever is attached a button, which works over a recess and bears against plates which cover the recesses. Upon raising the leaf the segment bars are retained by the buttons dropping over the recesses, and on drawing out the knob the levers and buttons are raised, and the bars passing through the aperture allow the leaf to fall.

Claim.—The combination of the levers E and knob F with the buttons G, curved bars C, and leaves A, in the manner and for the purposes shown and described.

No. 31,686.—CYRENUS WHEELER, jr., of Poplar Ridge, N. Y.—*Improvement in Reaping and Mowing Machines.*—Patent dated March 12, 1861.—This invention relates to the construction and arrangement of devices in detail of a machine, the leading characteristics of which are the subject-matter of letters patent heretofore granted to this inventor. The present invention does not admit of a brief description.

Claim.—The combination of the hinged shoe H and pivoted plate G, for allowing the finger-bar connected with said shoe to be folded to or around by the main frame and be supported by and carried on its hinges, substantially as described.

Also, the combination of the two frames A P connected to the same axle, the former supporting the gearing and cutting apparatus, and the latter extending rearward and by means of its caster supporting the driver or conductor and a raising and lowering apparatus, for raising, lowering, or suspending the frame A upon itself, substantially as described.

Also, the combination of the pivoted plate G, carrying the finger-bar, the stationary plate F, the guides *r s*, and the lever *w*, for allowing one plate to move freely and truly upon the other, and for holding them rigid when desired, substantially as described.

Also, the clutching and unclutching mechanism composed of the obliquely-slotted stationary plate *j*, the inclined movable plate *o*, with its flange *p*, and the lever *l*, arranged substantially as described.

Also, in combination with a hinged finger-bar and platform that are free to rise and fall at their outer ends and that carry the reel supports, a belt-guide on the main frame to prevent the end motion of the reel-shaft from throwing the belt off from its driving pulleys, substantially as described.

Also, in combination with the pivoted lever I and its catch-pin and foot 40 resting upon the shoe H, the hinged hook and latch *y*, for catching in one position and holding the lever and finger-bar in another position, substantially as described.

Also, the manner of holding the cutter plate 18 in place by means of its own projections and those upon the upper part of the finger, substantially as described.

Also, hanging casters to one side of a shank that is in turn hinged by an inclined pivot-pin, so that they will freely swing around to ease the machine in turning, and be easily got at to be cleaned of all grass or straw that may wind around them or their journals, substantially as described.

Also, in combination with a hinged track-clearer, the lock 11 12, for the purpose of making said track clearer rigid or flexible as occasion may require, substantially as described.

No. 31,687.—E. S. WILLSON, of Saratoga Springs, N. Y.—*Improvement in Safety Ships.*—Patent dated March 12, 1861.—This invention consists in providing a "refuge" cabin in the lower part of the vessel, designed to be completely protected from fire by a safety section composed of two divisions, one of which consists of a bed of cement, and the other of a bed of water covering the entire surface of the cement. An air pipe is designed to pass from the bow into this cabin to admit of ventilation.

Claim.—A refuge cabin, in combination with the layers of cement and water-bed, air-boxes, and device for ventilation, the whole constructed and all its parts arranged substantially as specified.

No. 31,688.—S. W. BROWN, of Syracuse, N. Y., assignor to himself and J. MCCOMBER, of Watertown, N. Y.—*Improvement in the Method of Locking Type Galleys.*—Patent dated March 12, 1861.—This invention consists of a metallic plate with ledges permanently secured to three of its sides, sufficiently high to retain the types within the galleys. The ledge D is provided with a series of oblique projections corresponding with similar projections on a bar which is allowed a longitudinal sliding movement, and retained in proper position by means of guides formed on the surface of the ledge and fitting in grooves in the said bar. To the inner side of the bar E is attached a metal bar which has a lateral movement, and in connexion with bar E is made to clamp the type against a parallel stationary bar in the galley.

Claim.—The arrangement, in the construction of a printer's galley, of the parts B C D E F, oblique slots *e e*, guides *d d*, slots *g g*, and screws or pins *f f*, in the manner and for the purposes described.

No. 31,689.—E. S. HOLMES, assignor to O. E. HOLMES and WILLIAM PERRIGO, of Wilson, N. Y.—*Improvement in Machines for Pressing Fruit in Barrels, &c.*—Patent dated March 12, 1861.—This invention consists of a bent link attached to the top of the plunger shaft and to the centre of the eccentric lever by pins or bolts, so that by turning the lever a steady pressure can be exerted upon the fruit in the barrel.

Claim.—The link E E, or its equivalent, operating in combination with the lever A A and the plunger C D, in the manner and for the purpose substantially as described.

No. 31,690.—JACOB JENKINS, of Lynn, Mass., assignor to J. C. STIMPSON, W. D. WATERS, and M. W. SHEPERD, of Salem, Mass., and G. W. KEENE, of said Lynn.—*Improved Machine for applying Heels to Boots and Shoes.*—Patent dated March 12, 1861.—The upper rotary heel-bed is provided with holes, into which nails are put to be forced into the heel by the plunger P, fastened to a curved arm M. The shoe, with its sole upward, is placed over

the lower heel-bed, under which is an elastic disk or cushion for adjustment to the inequalities of the leather. By raising the lever D the plungers *f* will force the nails into the heel on the inside, and by depressing lever L the plungers P will force the nails into the top of the heel. As the whole frame can be turned on its axis, the shoe can be put in any position for finishing the edges of the heel, while the machine is pressing the "lifts" together and on the sole and the paste is setting.

Claim.—First, the rotary heel-bed O, provided with the nail holes P′, and operating as described, in combination with the plungers P and arm M, or its equivalent, for the purpose specified.

Second, the combination and arrangement of the adjustable swinging arm K, shaft H, frame B, spring J, and connecting rod L, substantially as and for the purposes described.

Third, the combination and arrangement, substantially as described, of the rotary heel-beds O and F, rotating frame B, arm K, and lever D, for the purpose of compressing the lifts and sole, and holding the heel in any desired position for finishing the edge.

Fourth, the use of the rubber or elastic cushion G, as and for the purpose set forth.

Fifth, in combination with the punch 8, the centring arms 4 5 6, sliding yoke 7, and adjustable yoke 2, substantially as described and for the object specified.

No. 31,691.—GEORGE JUENGST, assignor to J. MCCROSSAN and T. J. MCAUTHUR, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated March 12, 1861.—The arrangement of the parts in this machine is designed to give the needle a rapid downward motion, a period of nearly entire rest while the shuttle is passing through the loop, and a rapid upward motion, and to the take-up motions in unison with the movements of the needle, taking up the thread and tightening the stitch on the upward motion of the needle, the action of the take-up being performed in part by the stationary guides *m* and *n*.

Claim.—First, the arrangement of the shafts, cranks, and link, as set forth, for operating the take-up and needle, so as to leave the loop of the needle's thread in proper position and condition for allowing the shuttle to pass freely and safely through.

Second, the take-up attached to the connecting rod of the needle-bar, and so arranged in relation to the two stationary guides as to control the thread through all its movements and tighten the stitch, as described.

Third, regulating the feed by the screw and stud, the two being in contact at all times, and operating as described.

No. 31,692.—E. R. PEASE, of Poughkeepsie, N. Y., assignor to R. P. PEASE, of Brooklyn, N. Y.—*Improvement in Mowing Machines.*—Patent dated March 12, 1861.—The lever I is fastened to the finger-bar and bent so as to pass under the shaft; it has a plate upon the end, so arranged that the driver, by applying his foot to it, can depress the lever and raise the finger-bar while it is passing over any obstructions.

Claim.—The dividing lever I, arranged in relation to the main frame and driver's seat, substantially as described, for operating the finger-bar in the manner and for the purpose set forth.

No. 31,693.—G. B. PHILLIPS, assignor to J. S. LITTELL, of Newark, N. Y.—*Improved Wagon Wrench.*—Patent dated March 12, 1861.—This invention consists in curving the bar of the wrench, and making the sections of a female screw on the edge of a bar for the male screw to work in that traverses the jaw and slide of the wrench. Lips or projections are made on the side of the jaws at a right angle to the plane of the bar, to turn nuts in cavities or on the ends of axles within the hub.

Claim.—As a new article of manufacture, the wrench described in the foregoing specification and represented in the accompanying drawing.

No. 31,694.—ARCALOUS WYCKOFF and LAFAYETTE STEVENS, of Elmira, N. Y., assignors to ARCALOUS WYCKOFF aforesaid.—*Improvement in Hollow Augers.*—Patent dated March 12, 1861.—This improvement relates to that class of augers which leave a rod or core by removing only an annular portion of the wood. The prime cutters are each formed with the terminal point projecting a little in advance of the edge and made somewhat thick and bent, for the purpose of compressing the grains of the wood while the cutters are acting.

Claim.—Constructing the cutter-head of annular augers by the combination of two rings, first accurately fitted together by annular tongue and groove respectively on and in the adjacent surfaces thereof, and then, by dividing one ring into sections or separate cutters *d d*, and properly finishing and hardening them, while the other ring *f* remains entire and unchanged from its original accurate form, so that, upon attaching the sections to the entire ring by screws or otherwise, unerring accuracy of form and perfection of parts are secured, substantially as specified.

Also, the advance blunt terminal point *m* of the prime cutter *i*, constructed and operating substantially in the manner and for the purpose shown and described.

No. 31,695.—ETHAN ALLEN, of Worcester, Mass.—*Improved Machine for the Manufacture of Metallic Cartridges.*—Patent dated March 19, 1861.—The invention consists in so arranging a set of rollers, cutters, and a holder for cartridges, operating automatically, that

the copper may be rolled into the bullet sufficiently to hold it secure and crease the ball for the reception of the lubricating material.

Claim.—The combination of rollers *h h*, knives *k k*, levers *i i i i*, inclines *m m m m*, with jaw N, inclined plane 4, spindle I, and arm Z, substantially as specified and for the purpose set forth.

No. 31,696.—WM. BLAKE, of Boston, Mass.—*Improved Furnace for Galvanizing Iron.*—Patent dated March 19, 1861.—The bath in which the iron to be galvanized is placed, is made in the form of a tube with an angular or curved head, and so arranged that its longer leg may be inclined in such a manner that the two ends of the tube may be on or about on a level. The tube is supported in bearings, so applied to its longer leg as to enable it to be revolved on its axis and allow the shorter leg to be turned down and emptied of any liquid contents. One or more furnaces are placed under the bath.

Claim.—An improved zincing bath, as constructed of a long bent tube, or its equivalent, arranged in one or more furnaces or heating chambers, and so as to operate substantially as described.

No. 31,697.—JOSEPH BRAKELY, of New York, N. Y.—*Improvement in Machines for Planing Bark.*—Patent dated March 19, 1861.—Two fluted rollers carry the bark over two rotary planes, and, by means of a double (parallel) adjustment of the beds or tables, the first planer takes off one thickness and the second planer the remaining good portion of the bark, leaving the ross or external worthless portion to be separately carried off, the three portions being discharged at separate points.

Claim.—The combination with each other and with the feed-rollers G G of the adjustable beds D F and cutting-cylinders C E, in the manner and for the purposes substantially as shown and described.

Also, in bark mills, having the bed or beds on which the bark is placed concentrically adjustable in respect to the periphery of the cutting-cylinder, substantially as shown and described.

No. 31,698.—T. L. BRAYNARD, of New York, N. Y.—*Improved Reins-Holder.*—Patent dated March 19, 1861.—The eccentrics are placed upon a post in the front part of the vehicle and so arranged as to nip the reins when pulled in the direction of the horse's head, so as to secure the reins when the driver leaves the vehicle.

Claim.—The arrangement and combination of the two eccentrics A and B, substantially as described, for the purpose of holding or fastening reins, straps, &c., by the action and revolution of such eccentrics toward each other.

No. 31,699.—HIRAM CLARK, of Rochester, N. Y.—*Improvement in Skates.*—Patent dated March 19, 1861.—The thimble consists of a thin piece of metal of the form shown, and is designed to form a thorough brace for the foot-piece from side to side, so as to relieve the posts or studs from lateral shocks or strains.

Claim.—The employment in skates of a thimble, or its equivalent, encircling the posts or studs between the foot-piece and the runner, for the purposes set forth.

No. 31,700.—JOHN COOLEY, of Tafton, Wis.—*Improvement in Corn-Planters.*—Patent dated March 19, 1861.—The seed-cylinder is provided with recesses or cups, which drop the seed into boxes beneath the cylinder, the bottoms of which are each alternately opened and closed by valves, so as to drop the seed through guide-tubes and shoes in hills on the ground. The shoe being hinged, is caused to be lifted as soon as the seed has been dropped, when the earth is scraped from it, and the rollers are made to descend behind each shoe so as to press the earth over the seed, the relative motions being imparted by means of cam projections acting on the recesses of the cylinder, in connexion with the crank and rock shafts.

Claim.—The cam-projections M and the recesses O of the seed-distributing cylinder B, in combination with the crank-shaft Z U F of the seed-valves E, the rock-shaft G, the hinged pressure-rollers H', and the levers T S operating the hinged shoes K, substantially as and for the purposes set forth.

No. 31,701.—NATHAN COPE and WILLIAM HODGSON, of Cincinnati, O.—*Improved Valve.*—Patent dated March 19, 1861.—The sections are constructed by casting each with a groove, which, when the two parts are secured together, form a semicircular annular groove, into which soft metal is run to form a valve-seat. Cross openings or grooves are also cast for the reception of the valve-stem, so that soft metal may be run in as a packing around the stem, and for forming a valve-seat at the same time.

Claim.—First, the employment of a valve which is the central section of a sphere, adapted to and used in connexion with a valve-seat, which is the corresponding section of a concentric or hollow sphere, substantially as and for the purpose specified.

Second, the employment of the valve-case, constructed in two parts and provided with metallic packing and valve-seat, as and for the purpose set forth.

No. 31,702.—JOHN COX and J. A. THROP, of Three Rivers, Mich.—*Improvement in Cultivators.*—Patent dated March 19, 1861.—The shovel-stocks are attached to the inner sides of the oblique frame-bars, by means of three-sided metallic blocks set in mortises cut in the side bars, so that their inner side runs parallel with the line of draught, and the shovels will come squarely in contact with the soil. Metallic ears are placed on the opposite side of the bar to receive the ends of the brace connecting the rods of the shovel-stocks.

Claim.—First, the combination with the oblique side bars A A and swinging shovel-stocks of feet F' F' of a V-shaped frame of three-sided metallic blocks G G, the blocks being constructed with their inner face to be parallel with the line of draught and in contact with the upper ends of the shovel-stocks, and their outer face parallel with the oblique bars, each block being let in the sides of the bars and confined by a single bolt H, substantially as and for the purposes set forth.

Second, the combination with the oblique side bars A A of metallic ears I I, wooden pins L L, swivelling connecting links K K, shovel-stocks F' F', and pivoted screw-bolts H H, substantially as and for the purposes set forth.

Third, the arrangement of the V-shaped frame A A B, crank-axle C, supporting wheels C' C', arch-shaped bar E, adjusting lever F *f*, three-sided blocks G G, shovel-stocks F' F', screw-bolts H H, metallic ears I I, swivelling connecting links K K, and wooden pins L L, substantially as and for the purposes set forth.

No. 31,703.—M. C. CRONK, of Auburn, N. Y.—*Improvement in Bottle-Stoppers.*—Patent dated March 19, 1861.—The stopper is made of metal or some hard substance covered with India-rubber, or its equivalent, and is secured to the bottle by means of wires and a hasp slipped over one of the coils of the wire.

Claim.—The combination of the stopper, constructed as set forth, with the wire rod H, the hasp I, and the loops F F, when used as and for the purpose specified.

No. 31,704.—JOHN DUNHAM, of Detroit, Mich.—*Improvement in Steam-Boilers.*—Patent dated March 19, 1861.—The boiler is constructed with a double series of tubes on each side of the furnace or fire-grate, so arranged that the flame passes from the rear end of the boiler through the lower series of tubes to the front end, and then passes into the upper series of tubes, and through them into the rear end, and thence up the flue. A series of pipes is arranged to convey hot or cold air from the air-chamber in the wind-wall N, through a water vessel connected with the inside of the boiler, delivering it in the flame at the top of the wind-wall.

Claim.—Conducting the air in through the water vessel, in combination with the several parts, when constructed in the manner and for the purposes set forth.

No. 31,705.—RUFUS DUTTON, of Dayton, O.—*Improvement in Mowing Machines.*—Patent dated March 19, 1861.—The casing-box is secured to the inner side of the plate D and encloses the bevel gearing, by which means they are prevented from coming in contact with grass, &c. The projecting centre of the casing-box forms a bearing for the inner end of the counter shaft *d*. Attached to the rear of the outer shoe of the finger bar is a track-clearer, consisting of wires arranged spirally in a conical form, and so constructed and hung as to receive a rotary motion by being drawn along, by which means the cut grass is thrown away from the standing grass.

Claim.—The casing-box E, its projecting centre forming a bearing for the end of the counter shaft, and having a projection *u'* for the reception of the bevel pinion of the pitman shaft, in combination with the outer side-plate D, provided with the bearing *f*, substantially as described.

Also, raising the outer end of the finger-bar at the same time that the draught-shoe is raised, by means of the bent lever P resting on the hinge-piece *i* and coming in contact with the friction roller *c*, or its equivalent, on the projecting end of the tongue, substantially as set forth.

Also, the conical skeleton track-clearer Q, formed of spiral rods or wires, when connected at their outer ends by the weight clamps *b' b'*, substantially as described.

Also, the guard-finger R, made in a single connected piece covering the sickle-bar and having openings *t' t'* in the bottom thereof for the escape of grass or other substance entering with the sickle, when said guard-finger is provided with a bearing surface *r'*, connecting the upper and lower portions of said guard-finger, and resting against the edge of the finger-bar, and is braced and sustained against lateral strain, as set forth.

No. 31,706.—BERNARD FAGAN, of New Britain, Conn.—*Improved Quilting Frame, Table, and Clothes-Dryer combined.*—Patent dated March 19, 1861.—A frame provided with slots at each end for the insertion of adjustable cross-bars, is hinged to a stand so as to be capable of maintaining a vertical or horizontal position; when in the latter position leaves are used to form a table.

Claim.—The combination of a table, a quilt-frame, and clothes-frame in one, substantially as and for the purposes described.

No. 31,707.—L. O. FAIRBANKS, of Nashua, N. H.—*Improved Bevel Attachment to Bench Planes.*—Patent dated March 19, 1861.—This invention consists in attaching to bench planes a clamp with an adjustable guide, so that it may be adjusted either at right angles with the plane stock for obtaining a square edge, or set at any required angle for a bevel by means of an adjusting nut.

Claim.—The attaching of an adjustable guide to the stocks of bench planes, substantially in the manner and for the purpose set forth.

No. 31,708.—THADDEUS FOWLER, of Seymour, Conn.—*Improved Device for Coating Pins.*—Patent dated March 19, 1861.—The pins or other articles, as soon as coated, are turned out of the kettle, and while falling into the water box are separated by agitating them in a box provided with cross-wires or riddles rapidly vibrated.

Claim.—The method specified of separating pins and other articles, so soon as thoroughly covered with the coating metal, by the use of a series of riddles, wires, or rods, to which a vibration or motion is communicated, to produce a series of blows or concussions upon the articles as they fall from the successive riddles, wires, or rods, and thereby insure the entire separation of the articles while the coating metal is in a melted state, as set forth.

No. 31,709.—L. F. FRAZEE, of Tottenville, N. Y.—*Improvement in Ash-Sifters.*—Patent dated March 19, 1861.—This invention consists in hanging the sieves upon links attached to a fixed support above the point of suspension, instead of below it, as usual, so that the descent of the sieve from the central position to the extremity of vibration shall cause a more violent concussion as the frame strikes the end of the box.

Claim.—The arrangement of the sieve 6, box 7, frame 9, links 10 10, and supporting pivots 11 11 13 13, in the manner described, the fixed point of support for the links being below the points or pivots which connect them to the sieve-frame, substantially as and for the purpose set forth.

No. 31,710.—CHARLES GARDNER, of Hoosick, N. Y.—*Improvement in Cultivators.*—Patent dated March 19, 1861.—Two parallel bars are connected together by V-shaped cross-pieces, so as to pass over plants, one of the pieces being connected to the bar by a screw passing through a slotted plate for the purpose of lateral adjustment. Wings are also connected with the side-bars, and admit of adjustment in an oblique position.

Claim.—The parallel bars A A, jointed handle-brace D, wings F, provided with sliding or extension plates G, and the V-shaped cross-pieces B B, all combined and arranged for joint operation, as and for the purpose set forth.

No. 31,711.—W. E. GAUNT and B. B. HINMAN, of Keokuk, Iowa.—*Improvement in Grain-Separators.*—Patent dated March 19, 1861.—The lower screen is adjustable longitudinally and the three upper sieves are adjusted by means of an eccentric for the purpose of adapting the machine to the various kinds of grain to be cleaned.

Claim.—The arrangement and use of the adjustable screen E, in combination with the adjustable sieve B, and stationary screen G, when arranged and operating substantially as set forth.

No. 31,712.—LOURE GREEN, of Great Bend, Pa.—*Improvement in Ploughs.*—Patent dated March 19, 1861.—The landside of the plough is provided with a series of friction rollers placed in a vertical position and having flanges on their lower ends; they are secured by means of bolts and screws held by nuts. On the top of the landside is a box-plate, to which the left handle of the plough is connected.

Claim.—The combination and arrangement of the share N, landside L, standard S, mould-board P, friction rollers R R R, and box-plate H', the whole constructed as and for the purpose described.

No. 31,713.—E. J. HALE, of Foxcroft, Me.—*Improvement in Lanterns.*—Patent dated March 19, 1861.—The upper part of the lantern case terminates in a perforated conical cap, the perforations being made with a punch, so as to be pressed up and outward, in the form of a frustrum of a cone for the purpose of preventing the air from passing into the chimney. The cylindrical case *o* and annulus *l* are designed to prevent smoking of the flame at the wick when the lantern is moved upward and downward.

Claim.—The foraminous conical cap *r*, made with its holes in conical frustra, arranged so as to project from the other surface of the cap, as described, in combination with the coal-oil lamp, its chimney and the lantern case, arranged together substantially as described.

The application of the parts *o l* to, and their arrangement with, the chimney supporter *n*, when separate from and supported by the deflector supporter, substantially as described.

No. 31,714.—JAMES HALE and J. S. ATTERBURY, of Pittsburg, Pa.—*Improvement in Lanterns.*—Patent dated March 19, 1861.—By forming the base of the lantern glass into a flange a tight joint is made between the base of the lantern glass and disk of the burner cap, so as to compel the air to reach the flame on passing through the cap.

Claim.—For use with a lantern and lamp, constructed substantially as described, a lantern glass with an outer flange I, blown or formed around its base, in combination with a horizontal extension or flange F, of the burner cap E, substantially as set forth.

No. 31,715.—WILLIAM HAMILTON, of St. Catharine, Mo.—*Improved Churn.*—Patent dated March 19, 1861.—This invention consists in the use of a perforated inner cylinder, within which is arranged to work up and down a plunger upon a hollow stem provided with a valve, by which means fresh atmospheric air is made to permeate the body of the milk.

Claim.—The use of a reticulated dasher cylinder or inner case so perforated as that a constant communication is established through the meshes of the inner cylinder between the inner and outer cylinders, both above and below the dasher, in the double movement of the latter, essentially as set forth.

No. 31,716.—S. T. HARVEY, of Baltimore, Md.—*Improvement in Stoves.*—Patent dated March 19, 1861.—The construction of this stove admits of its being placed beneath the floor, as in a railroad car, the heat coming up through a register in the floor. An air-chamber surrounds the upper part and forms a support when the furnace is suspended, and the whole is surrounded by a water-chamber.

Claim.—The combination of the water-chamber, air-chamber, stove, and register, when the several parts are constructed and arranged in the manner and for the purposes specified.

No. 31,717.—ALEXANDER RAY, of Philadelphia, Pa.—*Improvement in Railroads.*—Patent dated March 19, 1861.—A broad flanged rail is supported upon the natural or paved surface of the street with wood or other similar elastic material interposed between the flanges and pavement, and holding them together and to the road bed without the use of cross-ties. The ends of the rails are folded down so as to form a tapered loop in which the tapering ends of the splice-piece are inserted, by which means they mutually hold and support each other.

Claim.—The construction of street railroads by using the paved surface of the street as the bed of the railroad, and interposing between the pavement and the broad flanges of the rails a plank or line of planking, or other material having more elasticity than the pavement or the iron rail, and thus avoid the digging up of the street, substantially as described.

Also, in combination with the street rails that are supported upon timber, plank, or other elastic material laid upon the paved surface of the street, the strengthening of the joints of the rails by one or more tongues which slip into and are caught and held in one or more folds or loops formed in the end of the adjacent rail, and without the use of keys, bolts, rivets, or any other fastening than that afforded by the shape of the ends of the rails themselves, as described.

No. 31,718.—LUTHER HUMISTON, of New Haven, Conn.—*Improved Mode of Attaching Traces to Whiffletrees.*—Patent dated March 19, 1861.—The end of the trace is slipped over the lower hook and held in place by means of the spring lever.

Claim.—The use of the socket A, with its projecting stud B, and hook or cock-eye C, in combination with the elbow-shaded lever D, when the whole is constructed and fitted for use, substantially as described.

No. 31,719.—E. L. JINNETT, of Vermillion county, Ill.—*Improvement in Bee-hives.*—Patent dated March 19, 1861.—Attached to the bottom of the moth-hive is a pyramidal box or moth-trap extending nearly to the roof, on the top of which box is a tube which forms the only passage into the same. Grooves are made in the floor of the moth-hive, and in the sections above, in which is placed a composition for destroying the moth and moth egg. A glass tube is secured in the front of the hive for the passage of the bees to and from the hive—the transparency of the glass tending to ward off the approach of the moth-breeder.

Claim.—The combination and arrangement of the beehive, constructed substantially as described, with a moth-hive and trap beneath attached, provided with the devices described, or their equivalents, of similar construction.

Also, the glass tube B attached to the bee-hive, arranged in the manner and for the purposes described.

No. 31,720.—E. D. KENDALL, of New York, N. Y.—*Improved Apparatus for Naphthalizing Gas.*—Patent dated March 19, 1861.—Over the reservoir and opening into it is an upright cylinder. To the open top of the reservoir, which contains the naphtha, is screwed an upright cylinder, in the centre of both of which is a smaller cylinder secured to the bottom of the reservoir, and which holds a tubular wick closing over its top like a cap. A concentric slide is placed between the cylinders B and D, which is operated by a rod passing through the top of the cylinder, for the purpose of uncovering more or less of the wick to take up a greater or less quantity of vapor. The tube leading from the service pipe contains an inlet and outlet passage, and is provided with a three-way cock, so that all the gas may be made to pass through the cylinder or through a transverse passage *c* without passing through the cylinder, or a portion may be allowed to pass in each direction.

Claim.—The combination of the reservoir E, cylinders B and D, or their equivalents, wick *h*, and slide E, the whole applied, substantially as described, in relation to each other and to the inlet *a*, from the supply or service pipe and the outlet *b*, to the burner or burners, substantially as and for the purpose specified.

No. 31,721.—JOHN LEAVENS, of Brooklyn, N. Y.—*Improved Pressure Gauge.*—Patent dated March 19, 1861.—The pipe which supports the indicator ring is connected with the water-chamber of a hydraulic press, in such a manner as to allow the water to rise into the pipe and act on a piston fitted air or water tight, and moving up and down within the same. The upper end of the piston is formed into a point, which supports an elliptical spring placed within the indicator ring and retained in place by a set screw above. One end of the spring connects with a lever by means of a pivot, and its other end is slightly bent in, and a pin fastened in the latter forms the support for the lever. The outer end of the lever is connected by a rod with the end of a safety-valve lever upon a press or a boiler.

Claim.—Supporting the spring D and lever E within the indicating ring B, between the upper point of the valve C and the adjuster *b*, when all of said parts are mounted upon the steam-pipe A and otherwise constructed, as shown and described, for the purposes set forth.

No. 31,722.—J. J. E. LENOIR, of Paris, France.—*Improved Air Engine.*—Patent dated March 19, 1861.—The nature of this invention is explained by the claim. Its construction and operation do not admit of a brief description.

Claim.—The arrangement in an air engine, substantially as described, of the parts for the admission to the cylinder successively of air and inflammable vapor or gas in such requisite quantities and proportions as that the former shall act upon the piston by expansion on being heated by the ignition of the latter, as described, in combination with a device for igniting said vapor or gas by electricity at each end of the cylinder, essentially as set forth.

No. 31,723.—JACOB LIGHTER, of Clay Village, Ky.—*Improvement in Medical Compounds to Cure Hog Cholera.*—Patent dated March 19, 1861.—This compound consists of calomel, copperas, and worm-seed oil, varying in proportions according to the stage of the disease.

Claim.—The use of the compound described to be administered to swine for the cure of the disease known as hog cholera.

No. 31,724.—S. H. LYON and W. E. DOUBLEDAY, of Brooklyn, N. Y.—*Improvement in Bonnets.*—Patent dated March 19, 1861.—The claim and engraving will explain this invention.

Claim.—The bonnet or hat formed of cotton cloth known as pique, or marseilles, upon buckram or stiffening material and pressed into form between heated dies, as set forth.

No. 31,725.—JOHN MARKEL, of Monticelli, Ill.—*Improvement in Cultivators.*—Patent dated March 19, 1861.—This invention consists in a combination of hinged cultivator frames, connecting link, adjusting rod, springs, &c., for the purpose of setting the shares to any desired width, and at the same time admitting of their being temporarily adjusted by hand. The wheels are dished considerably, and they are so attached to the bearings as to admit of their being reversed when necessary, and thus alter the width of tread to suit the working width of the cultivator shovels.

Claim.—First, the combination of devices G *b* H *h* I, for permanently or temporarily adjusting the working width of the cultivator shovels, constructed, operated, and operating in the manner substantially as set forth.

Second, in combination with the above, the reversible dished wheels C, as fully described for the purpose set forth.

No. 31,726.—FERDINAND MARTIN, of Marseilles, France.—*Improved Anchor.* Patented in England August 27, 1859.—Patent dated March 19, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—An anchor provided with a curved steadying bar, sword-shaped flukes, grappling head or third fluke, and otherwise constructed as shown and described.

No. 31,727.—J. F. MCCLURE, of Boston, Mass.—*Improved Hair-Brush.*—Patent dated March 19, 1861.—A thin plate of perforated metal is placed upon the face of the brush back or body and surrounds the bristles, so that whenever the brush becomes foul with oil, dandruff, &c., the plate may be lifted from the brush back and the impurities cleared therefrom.

Claim.—The perforated plate C, or its equivalent, applied to a brush, substantially as and for the purpose specified.

No. 31,728.—J. H. SEARS, of Boston, Mass., and BENJAMIN MERRITT, of Chelsea, Mass.—*Improvement in Brick Elevators.*—Patent dated March 19, 1861.—The elevating hod, endless chains, and a series of pins on the elevating drum, are so combined that when the hod has been raised to the required height, it shall be carried laterally towards the floor or platform on which the receiving hod is placed, and be tilted over in such a manner as to empty the bricks into the receiving hod without disturbing their regular order or breaking them.

Claim.—The combination of the swivelling hods G, latch *m*, and pins 7 with the endless chain D, the whole arranged and operating as described for the purpose set forth.

Also, the arrangement of the pins 5 and 7 in triangular positions, for the purpose of giving the greatest amount of lateral throw to the hod G, as and for the purpose described.

No. 31,729.—CHRISTOPHER MEYER, of New Brunswick, N. Y.—*Improvement in Methods of Applying Caoutchouc to Cloths, &c.*—Patent dated March 19, 1861.—The object of this invention is to apply the India-rubber or gutta-percha only to those parts of the fabric which are to be cut out for use, or to certain parts of the pieces to be cut out, by which means waste of material is avoided.

Claim.—Causing cloth or other fibrous material and India-rubber or gutta-percha to adhere in any desirable forms, by means of plain pressure rollers and loose patterns, substantially in the manner set forth.

No. 31,730.—CHRISTOPHER MEYER, of New Brunswick, N. Y.—*Improvement in India-rubber Shoes.*—Patent dated March 19, 1861.—This shoe is designed to be worn without an overshoe, or as an overshoe, the "upper" being made of a material which will admit of evaporation of perspiration from the foot, and the sole and its connexions being made of rubber.

Claim.—A shoe having a rubber sole, and its upper composed of cloth, felt, or other equivalent substance, coated with rubber near the sole and also at its binding edge, substantially in the manner shown, but being elsewhere permeable to moisture, the whole being constructed substantially as set forth.

No. 31,731.—SAMUEL MILLER, of Winchester, O.—*Improvement in Harrows.*—Patent dated March 19, 1861.—The parts are so constructed as to admit being readily taken apart and adapted to be used as a fallow-ground harrow, or a wide harrow, or a single plough.

Claim.—The employment of pieces A, B, C, D, and E, for operating conjointly, when constructed and arranged in the manner and for the purpose set forth.

No. 31,732.—ROSWELL NORTHROP, of New Millford, Conn.—*Improvement in Machines for Felting Hat Bodies.*—Patent dated March 19, 1861.—The invention consists of a cam-roller, fluted or otherwise, working in connexion with one or more fluted rollers, so arranged and operated as to alternately press the articles to be fulled or felted more and then less, and more and less in alternate succession, as long as required.

Claim.—The fluted cam-roller I, in combination with the rollers J J, for the purposes set forth.

No. 31,733.—J. H. NOYES, of Abington, Mass.—*Improved Last for Boots and Shoes.*—Patent dated March 19, 1861.—This invention has for its object the ready removal of the last from the boot or shoe without straining and injuring the "upper."

Claim.—In a last formed in two parts by cutting it transversely at or near the shank, the dovetailed groove and tenon joint, as described, in combination with the slotted sliding plate and set screws on the one section and the lip fixed upon the other section of the last, the whole being constructed and arranged so as to operate substantially in the manner set forth, whereby, while the parts may be disunited at pleasure, all lateral play is prevented when united.

No. 31,734.—B. N. NYCE, of Kingston, Ind.—*Improvement in Buildings for Preserving Fruit.*—Patent dated March 19, 1861.—The outer and inner frame work consists of scantling, sheathed with iron on the sufaces exposed to the inner and outer air, and with zinc in the ice reservoir. The upper parts of the joists are formed with edges made of metal, so as to secure the greatest exposure of every part of the floor, which is made of galvanized iron, to the air of the preserving apartment. The cover consists of a rectangular frame, open at its central portion, and supporting a diaphragm of tarpaulin or other flexible and impervious material, and is suspended by cords depending from the roof, and let down from time to time, as the ice melts, the frame or floor preventing the settling of the chaff between the ice and the sides of the reservoir. In front of the entrance of the main chamber is placed a vestibule W, having at its upper portion a coil or tank for the reception of the melting from the ice reservoir, and furnished with appliances for purification, drying, and agitation of the air, as in the main chamber. The desiccating substance is spread in the dry form along the troughs U, and as it deliquesces is dried and returned to the troughs.

Claim.—First, the construction of a preserving-house whose lower chamber, to contain provisions, is separated from its upper or ice chamber by an air-tight metallic floor M, supported on metallic joists L, whose upper surfaces consist of a series of thin edges or points, substantially as and for the objects set forth.

Second, the cover O P, consisting of a frame O, which fits the interior of the ice reservoir, and is open at its centre, and supports the skirts of an impervious and flexible diaphragm P, as and for the objects explained.

Third, the described combination of the insulated, cooled, and dried vestibule W, furnished, as described, with the main preserving chamber, all constructed as set forth.

Fourth, in combination with the chambers for preserving fruit, as described, the use of inclined desiccating troughs U and hygrometer attachment 3, 4, 5, 6, 7, substantially as set forth.

No. 31,735.—J. S. PALMER, of Providence, R. I.—*Improvement in Constructing Bracelets, &c.*—Patent dated March 19. 1861.—This invention consists in turning over the edges

of the foundation plate to form an overlaying lip or slide upon each edge of the oustide of the bracelet, which forms a smooth round edge, and serves to support and retain certain ornamental work.

Claim.—The combination of the lips *e e* of the foundation plate with the ornamental metal plates, or their equivalent, constructed in the manner substantially as described, for the purpose specified.

No. 31,736.—ENOCH PIPER, of Camden, Me.—*Improvement in the method of Preserving Fish.*—Patent dated March 19, 1861.—The apparatus used in carrying out the method claimed consists of a box in which the fish are laid upon a rock, the box being surrounded by a packing of charcoal or other non-conducting material. Metallic pans, filled with a freezing mixture, as salt and ice, are then set over the fish, and the cover is shut upon them, which causes the temperature to fall to 10° or 15° below the freezing point.

Claim.—Preserving fish or other articles in a close chamber by means of a freezing mixture, having no contact with the atmosphere of the preserving chamber, substantially as set forth.

No. 31,737.—DANIEL POHLMANN, of Baltimore, Md.—*Improvement in Railroad Safety Brakes.*—Patent dated March 19, 1861.—The sliding rods are constructed with projecting portions fitting in grooved projections in a cross-bar of the shoe. When the rod is drawn forward the frame falls upon the track, and the truck-frame slides upon the inclined portions of the shoe.

Claim.—The shoe-frames B, in combination with the sliding rod *c*, having supporting projections *d d'* and truck-frames A, the whole constructed, arranged, and operating substantially as and for the purposes set forth.

No. 31,738.—W. F. QUINBY, of Stanton, Del.—*Improvement in Cultivators.*—Patent dated March 19, 1861.—Two or more cylinders, provided with spurs or teeth on their peripheries, are so connected by means of cogs, belts, or chains that the revolution of the foremost cylinder shall cause a greater relative speed to the rear cylinder. The cylinders are arranged within a frame-work, mounted on a jointed carriage-frame, so that the driving cylinder can be raised or depressed at pleasure, and the teeth on this cylinder withdrawn entirely or partially from the ground.

Claim.—The employment of two or more rotary cylinders A D', armed with suitable teeth secured to their peripheries, and so combined that the revolution of the foremost cylinder shall give a greater relative speed to the rear cylinder or cylinders, said cylinders having their bearings in a suitable frame, which is mounted in a carriage, consisting of frame E E, wheels F F, jointed frame H H, and front wheel I, cords or chains J J, pulleys *m m*, and roller G, or their equivalents, all combined and operating substantially as and for the purposes set forth.

No. 31,739.—JAMES REED, of Newville, O.—*Improvement in Water-Wheels.*—Patent dated March 19, 1861.—The bucket is constructed with a spiral descent from its upper terminus, in nearly the same degree, for about two-fifths of its length, whence it descends spirally much more rapidly to the point at which the water issues from the wheel. The bucket is attached to a vertical shaft within a circular chamber.

Claim.—First, a plano-convex spiral bucket for water-wheels, as set forth, and substantially as described.

Second, a bucket for water-wheels of the character above stated, in combination with a circular chamber, for the purpose set forth, and substantially as described.

No. 31,740.—G. N. RELYEA, of Veteran, and JOHN RELYEA, of Horseheads, N. Y.—*Improvement in Straw-Cutters.*—Patent dated March 19, 1861.—The knives are formed with concave and convex edges, secured to a shaft, which receives a vibratory motion from a slotted arm driven by a crank. On each side of an oscillating lever, which receives motion from a crank arm on the main shaft, are attached racks and pawls, acting upon pinions connected with the feed-rollers, which cause an alternate movement of the latter, in connexion with the knives.

Claim.—First, the peculiarly shaped cutters C C, pointed and cutting with both edges, arranged and operated substantially as set forth.

Second, in combination with lever G, constructed and operated as described, the pawls and racks I I' and pinions P, for operating the feed-rollers, substantially in the manner set forth.

Third, in combination with a straw-cutting machine, constructed as described, the shaft B, arm H, lever G, and lever A, arranged for conjoint operation, as specified.

No. 31,741.—WILLIAM C. REUTGEN, of Keokuk, Iowa.—*Improvement in Hand-Trucks.*—Patent dated March 19, 1861.—The claim and engraving will explain this invention.

Claim.—The arrangement of auxiliary wheels *b b*, in the rear ends of the truck frame, relatively to the main wheels B B and the curved adjustable holding and stop bar D, substantially as and for the purposes set forth.

No. 31,742.—WILLIAM S. RIGGS, of Hightstown, N. J.—*Improvement in Cultivators.*—Patent dated March 19, 1861.—The forward ploughs are so connected to the frame that they can be moved sideways and their inclination to the planted row changed, for the purpose of either simply loosening the ground or casting up a furrow, as may be desired:

Claim.—The arrangement, substantially as set forth, of the standards B B' and shares *a a* and frame A, the whole operating as and for the purposes set forth and described.

No. 31,743.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Steam-Boiler Furnaces.*—Patent dated March 19, 1861.—The gas-mixing chamber is formed by throwing an arch of fire-brick at a suitable distance above the grate, with openings close to the sides of the box for the escape of the gases into the mixing chamber. In the crown of the arch is an opening provided with a sliding valve which is opened more or less, according to the character of the fuel used and proportion of lighter gases evolved.

Claim.—The construction and arrangement of the gas-mixing chamber D, directly over the fire chamber, with openings *c c* at the sides thereof, substantially as described.

Also, in combination with the so constructed and arranged gas-mixing chamber and its side openings *c c*, the opening *g*, at the crown of the arch E, or its equivalent, communicating with the highest part of the fire chamber, and fitted with a valve or damper *h*, substantially as and for the purpose specified.

No. 31,744.—T. J. R. ROBINSON, of Boston, Mass.—*Improvement in Dampers for Multitubular Steam Boilers.*—Patent dated March 19, 1861.—The damper, which is hinged to the rear tube sheet, is made of two parts, the upper one of which covers the mouths of the upper half of the tiers of tubes and the lower part the lower portion of the tubes. Secured to a shaft which serves as a pin to the upper hinges is a long arm operated by a rod connected with a hand lever at the front of the boiler and within reach of the engineer, the object being to counteract the natural tendency to a strong draught through the upper tubes.

Claim.—The damper constructed of one or more parts hinged together, and arranged relatively to the tubes of the boiler, substantially as described, and combined by such a system of connexions as will make the lower parts capable of opening before or independently of the upper ones, substantially as and for the purpose described.

No. 31,745.—E. P. RUSSELL, of Manlius, N. Y.—*Improvement in Fingers for Harvesters.*—Patent dated March 19, 1861.—This invention is explained by the claim and engraving.

Claim.—The combination of the elastic steel face plate *c* with the concave face of the finger A, by means of the cap B and the single bolt or screw *c*, whereby said plate is drawn down upon the finger in the manner described, for the purposes set forth.

No. 31,746.—J. A. SAFFORD, of Boston, Mass.—*Improved Mode of Splitting Leather.*—Ante-dated November 19, 1860; patent dated March 19, 1861.—Each standard is provided with an opening fitted with bearings in which are mounted the two ends of the shaft of the feed-roll and of the gauge-roll, so that the bearings may move up and down as may be required. The periphery of the feed-roll is fluted or roughened to prevent the leather from slipping. A rod is secured to the side of the bearings of the feed-roll, and connected by links to a treadle, by which means the feed-roll may be drawn down so as to clear the machine without varying the relative position of the gauge-roll with respect to the knife, and thus prevent waving of the leather as it is cut.

Claim.—Combining with the gauge-roll J, whose ends are simultaneously adjusted by one operation, a feed-roll, G, so mounted on springs, *d*, that either end may be depressed to a distance sufficient to compensate for such inequalities in the leather being skived as are not sufficient to choke the machine, when such arrangement is combined with a rod, L, or its equivalent, connecting links M and treadle N, for the purpose of depressing both ends of the feed-roll simultaneously to free the machine when choked, the whole being arranged, constructed, and operated in the manner substantially as described.

No. 31,747.—Suspended.

No. 31,748.—J. H. SIMONDS, of New York, N. Y.—*Improved Hot-Air Register.*—Patent dated March 19, 1861.—This invention is explained by the claim and engraving.

Claim.—Having the open face plate B of a hot-air or ventiduct register of curved or arched form, so as to project outward from the duct C and form a space or chamber *d*, which, in connexion with box A, serves to admit of the operating of the slats or valves without interfering with or obstructing the duct, as set forth.

No. 31,749.—D. W. SMITH, of Dooley county, Ga.—*Improvement in Ploughs.*—Patent dated March 19, 1861.—Disclaiming the separate parts of this machine, the inventor claims a novel arrangement of parts, whereby the share may be set at a greater or less inclination, and the landside adjusted in a horizontal position. The block may be adjusted vertically, serving as a support for the plough, and preventing the landside cutting into the subsoil.

Claim.—The adjustable standard and brace B C, connected together, and arranged in rela-

tion with and attached to the beam A, as shown, in connexion with the landside E, block H, and adjustable arm F, all arranged for joint operation, substantially as and for the purposes set forth.

No. 31,750.—RICHARD SOLIS, of New Brunswick, N. J.—*Improved Fastening for Gaiter Shoes.*—Patent dated March 19, 1861.—This fastening consists of two metal plates pivoted together at the bottom and secured, respectively, to the sides of the opening in the side or front part of the gaiter. Near the top of the boot is secured, upon either side of the opening, a spring latch and corresponding catch box, by which means the boot may be readily fastened and unfastened.

Claim.—The gaiter fastening composed of the pivoted plates *b b'* and spring latch *g g'*, when constructed, applied, and operating together, and with the gaiter A, in the manner shown and described.

No. 31,751.—M. B. STAFFORD, of New York, N. Y.—*Improvement in Stoves.*—Patent dated March 19, 1861.—The rear half of the jacket in connexion with the stove, and with which it may be cast, forms an air chamber, and the front half is made of sheet metal and perforated so as to admit of the radiation of heat from the stove and of cold air passing into the rear air-heating chamber. The two parts are joined together, to form a cylindrical case around the stove.

Claim.—The construction of the jacket in two parts, one of which H is perforated so as to form a protractor and radiating chamber, while the other part E forms a hot-air chamber, when the said parts are arranged together, and the stove and air chamber, and the whole is made in the manner shown and described.

No. 31,752.—I. A. STAFFORD, of Essex, N. Y.—*Improvement in Seeding Machines.*—Patent dated March 19, 1861.—The lower opening of the hopper is made narrow and provided with a row of bristles, to act as brushes for forcing the grain through slits in the sliding bottom into the distributing box. The vibrating rack is pivoted to the ends of the hopper, so as to work in the centre, and has a row of pins on the under edge, which serve to stir the grain in the hopper.

Claim.—The arrangement and combination of the hopper G, the vibrating rack *g*, the sliding bottom *h*, and the distributing box H, substantially in the manner as specified and for the purposes set forth.

No. 31,753.—FREDERICK STAMM, of Lancaster, Pa.—*Improvement in Cultivators.*—Patent dated March 19, 1861.—The side beams are connected to the rear end of the draught beam by hinges, and are adjusted the required width by means of arc-shaped stays in front.

Claim.—The arrangement of the draught beam B, side beam A, stays D, hinge C, and curved shovel E, with its head Z, the whole being constructed, operated, and operating in the manner and for the purpose set forth.

No. 31,754.—C. W. TAYLOR, of Pittsburg, Pa.—*Improvement in Alarm Trunks.*—Patent dated March 19, 1861.—In a suitable place on the inside of the lid of the trunk is arranged an ordinary clock alarm, having a bell so combined with a sliding rod and spring that when the wheel work of the alarm is wound up the hammer rod will be prevented from operating unless the trunk or lid is raised. The shutting of the lid causes a lever to assume its proper position for action, in the event of the trunk or its lid being moved.

Claim.—The clock alarm, in combination with the lever F, board G', rod *f*, spring *h*, and rod J, the whole being constructed and operated substantially in the manner and for the purpose set forth.

No. 31,755.—HORACE TUPPER, of Buffalo, N. Y.—*Improvement in Boxes for Railroad Cars, &c.*—Patent dated March 19, 1861.—A piece of money being dropped in the opening C, falls between the inclined sides and upon the wheel E, the wings of which are made of glass, and is caused to revolve by the driver. Windows are placed in the sides of the box, so that the wheel may be seen. The money falls into a box G, which is kept locked. Any change to be returned is dropped through opening C' and taken from box L, through a door.

Claim.—First, constructing the upper portions of the box A, with openings C C C', with inclined sides D D, windows K K, and revolving transparent partitioned wheel E, arranged as and for the purpose specified.

Second, in combination with the partitioned wheel E, the drawer G, the same being used substantially as and for the purpose set forth.

No. 31,756.—M. D. WELLS, of Morgantown, Va.—*Improved Churn Dasher.*—Patent dated March 19, 1861.—The inventor says: "The dasher being hollow, a few slow turns of the same causes the butter to collect within the box so as to be removed in a lump."

Claim.—The oblique box dasher D, constructed and operating substantially as set forth, that is to say, with two flat sides, two curved sides, and two open sides, and turned in the same direction for churning and for gathering the butter, but at variable velocities, as mentioned.

No. 31,757.—C. H. WILCOX, of New York, N. Y.—*Improvement in Sewing-Machine Needles.*—Patent dated March 19, 1861.—This needle, constructed as claimed, is designed to fit a radial projection in the socket of the holder, so that it may be readily guided or adjusted to its proper set, and prevented from turning on its holder.

Claim.—A sewing machine-needle, the same forming a new article of manufacture, having combined with its round shank a slot or groove, substantially as and for the purpose or purposes set forth.

No. 31,758.—P. G. WOODARD, of Waterford, Pa.—*Improved Butter-Worker.*—Patent dated March 19, 1861.—The butter board is provided with two sides, projecting upward, and is arranged to have a short side-play, so that as the roller strikes the sides alternately at the close of its forward and backward movement, the ridges of the roller will strike in different parts of the butter. A greater or less pressure is exerted upon the butter by the rollers by the adjustment of head blocks, in which the rack-pieces are secured.

Claim.—The combination and arrangement of the fluted roller E and the butter board or table H, provided with sides or projections *p p*, so as to produce an automatic shifting of the roller upon the butter at every turn of its movement, substantially as and for the purpose specified.

Also, the adjustable head blocks B B B B, arranged and operating, in connexion with the other parts of the machine, so as to adjust the roller E to any desired height above the butter board or table H, substantially as set forth.

No. 31,759.—WILLIAM WOODBURY, of Gloucester, Mass.—*Improved Spring Tackle for the Sheets of Fore-and-aft Rigged Vessels.*—Patent dated March 19, 1861.—Upon each side of the loop to which the traveller block is attached, and embracing the traveller rod, is a tube of India-rubber acting as a spring, which is compressed by the loop as it is moved towards either end of the traveller, by which means the sheet is relieved from the sudden jerk and strain as the boom is shifted from one side to the other.

Claim.—The springs *b*, in combination with the traveller C and sheet E, operating substantially as described, for the purpose specified.

No. 31,760.—A. S. ADAMS, of Chelsea, Mass., assignor to Himself and JOS. WATSON, of Brooklyn, N. Y.—*Improvement in Printing Presses.*—Patent dated March 19, 1861.—Projecting from the hinged part of the tympan is a curved piece or dog *h*, and in the path of this dog, but attached to the frame, is a cam *i*, curved at its end to correspond with the curve of the dog. When the carriage is near the end of its traverse the curved piece *h*, by following over the end of the cam, permits the tympan to be raised by the spring *f*: but when the carriage is moved towards the opposite end of the press the dog *h*, by riding up on the cam, closes the tympan down on the carriage or the form placed thereon. The frisket, which is a light frame composed of adjustable bars, is operated automatically by means of a spring which presses the frisket up to the tympan until the latter is raised to or nearly to its extreme height, when the end of the spring which has held up the frisket strikes the travelling carriage, and the frisket is thrown off from the tympan. The inking roll is supported on a U-shaped bar which allows the roll to pass above the bed, whilst the sliding part, which is supported on the frame of the press, passes beneath the bed, where it is out of the way, and may readily be operated by a treadle.

Claim.—First, the dog *h*, on the tympan, and stationary cam *i*, for the purpose of automatically depressing the tympan before it reaches the impression roll, whereby the tympan can be operated on by said roll, when the former comes under from either direction, as described.

Second, the combination of the spring *r*, with the picket T, and tympan K, the whole arranged and operating as specified, for the purpose set forth.

Third, the inking roll R, carried by the bent or U-shaped bar M, substantially as described.

No. 31,761.—G. W. DEPEW, assignor to HORTON, DEPEW & SONS, of Peekskill, N. Y.—*Improvement in Ploughs.*—Patent dated March 19, 1861.—The clevis is formed with three holes in its front part and a recess in the rear forming arms, which are provided with pins on their inner sides to fit into notches in the plough beam, by which means the plough may be adjusted to a greater or less pitch, and the casual attachment of the clevis prevented.

Claim.—A clevis B, provided with arms *h h*, which have pins *i i* projecting therefrom, in connexion with a plough beam A, having flanches *a a* at its upper and lower edges, and provided with an inclined front end *a'*, and notches *c e*, all arranged as and for the purpose set forth.

No. 31,762.—W. H. HOPE, of Washington, D. C., assignor to T. B. FLORENCE, of Philadelphia, Pa.—*Improvement in Machines for Sweeping Streets.*—Patent dated March 19, 1861.—The cylindrical brush is made to revolve in the rear of a semi-cylindrical casing which may be adjusted to the brush as the latter wears away. Connected with the axle and box which contains the dirt is a bar to which a lever is attached for the purpose of moving the box when the brush is ungeared.

Claim.—First, the arrangement of a cylindrical brush in street-sweepers, revolving in a metallic or other adjustable casing, as described, whereby dirt and other substances are gathered without any other mode of conveyance, into the box or body of the machine, as set forth and described.

Second, the arrangement of lever L, in combination with the bar R, connecting rods *r r*, and axle A, which are attached to box or body *b*, for the purpose of ungearing brush B, as set forth and described.

No. 31,763.—F. HUCKINS and E. C. R. WALKER, assignors to FRANCIS HUCKINS.—*Improvement in Apparatus for Desiccating and Torrefying Farinaceous Substances.*—Patent dated March 19, 1861.—The retort is suspended within a semi-cylindrical vessel of cast-iron. Upon a shaft in the retort is secured a series of arms, in each of which is fitted a rod having a collar and spiral spring. At the ends of the rods are placed scrapers made to bear against the inner surface of the retort by the springs, by which means the material, as it is stirred, is prevented from burning, or being unduly heated.

Claim.—The employment, in connexion with the arms F, and retort C, of the self-adjusting or spring scrapers *j*, constructed and operating as shown and described.

No. 31,764.—LEWIS MILLER, assignor to C. AULTMAN & CO., of Canton, O.—*Improved Gearing for Threshing Machines.*—Patent dated March 19, 1861.—This invention consists in placing the journals of the cylinder beyond or outside of the gearing for the purpose of reducing the size of the journals and getting a corresponding reduction in the friction of them, as well as to remove them as far as possible from the dust and grit thrown off in threshing.

Claim.—Supporting the shaft of a threshing cylinder in bearings arranged outside of and beyond the main frame of the machine, when used in connexion with driving gearing placed between said bearings and the main frame, for the purpose of using small journals and applying the power that is to drive the threshing mechanism to the heavier and stronger part of the shaft, substantially as and for the purpose set forth.

No. 31,765.—A. M. MILLOCHAN, of New York, N. Y., assignor to HENRY LEVERAT.—*Improvement in Methods of Extracting Oil from Fish.*—Patent dated March 19, 1861.—This process consists in placing the fish in a bath of dilute sulphuric acid sufficient in quantity to permit the oil to separate readily from the remains of the fish by difference in specific gravity, so that it can be drawn off. The fish becomes entirely disintegrated and the oil rises to the surface, when it is drawn off and filtered.

Claim.—The described process substantially of obtaining oil directly from fish by means of a bath of dilute sulphuric acid, and without forcible separation by pressing.

No. 31,766.—J. L. ROWE, assignor to Himself and T. RUDDERFORTH, of New York, N. Y.—*Improved Ice-Crusher.*—Patent dated March 19, 1861.—This invention consists of a fluted roller used in connexion with a side piece grooved vertically and hinged at the upper part, so as to be capable of adjustment for cracking ice into larger or smaller pieces.

Claim.—The adjustable side *d*, grooved vertically as specified, in combination with the roller *a*, to crack and break ice in the manner specified.

No. 31,767.—ALBION RANSOM and R. D. GRANGER, assignors to S. H. RANSOM & CO., of Albany, N. Y.—*Improvement in Tea-Kettles.*—Patent dated March 19, 1861.—The bail of the kettle is made to rest upon a projection on the rear of the cover and off from the kettle, which prevents it from being heated, and the turning off the cover is accomplished by moving the bail, which dispenses with the use of a holder.

Claim.—Connecting the lid or cover to the breast of the kettle by studs or projections constructed substantially as described, whereby the lid will be held to the body at all times and be in the erect or nearly erect position when thrown up or out, and the bail be held off from the breast of the kettle, as recited.

No. 31,768.—W. H. SULLENBERGER, assignor to Himself, HENRY SIERER, and JOHN TOBERT, of Chambersburg, Pa.—*Improved Method of Hanging Band Saws.*—Patent dated March 19, 1861.—This invention relates to a method of hanging the saw so as to compensate for its expansion and contraction under different degrees of temperature, and thus keep up a proper degree of tension on the saw. Also, to a method of hanging the upper belt-wheel in combination with a movable slide in the table, whereby the saw may be adjusted and set to saw any irregular or straight bevel. Also, to a means for preventing injury to the saw-teeth in consequence of their running on the peripheries of belt-wheels. Also, to the application of a yielding gutta-percha wheel to the toothed edge of the saw under the table for the purpose of preventing the saw from being worked off the belt-wheels when the work is drawn backwards from the saw. Also, to a guide-wheel which prevents the saw from twisting, and serves as a back rest for the saw in sawing, and is so constructed as to be adapted to saws of different widths.

Claim.—The employment, in the manner substantially as shown and described, of a spring balance *f*, to strain the saw; as the saw expands by heating, the straining pressure of the spring will decrease, all as set forth.

The particular arrangement of the joint frame D D′, and arm *b*, and slide A2, with the oscillating adjusting screw J, in the manner and for the purposes shown and described.

The construction of the guide-wheel I, with separately adjustable flanges and shanks and intermediate washer, substantially in the manner and for the purposes shown and described.

The arrangement of the peculiarly constructed guide-wheel I, with the saw K, and adjustable slotted arm H′, in the manner and for the purpose shown and described.

No. 31,769.—C. F. ANDERSON and SYLVESTER DAVIS, of Claremont, N. H.—*Improvement in Water Elevators.*—Patent dated March 26, 1861.—To the under side of the lever I, moving in the curb, both laterally and longitudinally, and arranged above the axle so as to rest on either of the pulleys C′ or D, is attached a flexible brake encircling the pulley D. When the lever is moved laterally so as to clutch the shaft with the hub *b*, it can be also moved forward, thus tightening the shaft on the pulley and producing friction, which prevents the bucket from descending rapidly. The hook J is attached to one end of the strap and projects out of one side of the curb, and on it is placed a thumb-nut by which it can be shortened or lengthened. The partition serves to deflect the rod and thus open the valve of the bucket, and also to prevent the moisture arising from the well from coming in contact with the windlass, a current of air being kept up through the spout and an aperture in the rear.

Claim.—Having the flexible girdling brake H attached to the shifting lever I, which operates the sliding windlass B, when the said lever has both a lateral and longitudinal movement, and when said parts are otherwise constructed and arranged to operate with each other in the manner shown and described.

The arrangement of the adjusting hook J, with the girdling strap, in the manner shown and described.

The arrangement of the partition O, and rear aperture *h′*, with the curb A′, windlass and brake, in the manner and for the purpose shown and described.

No. 31,770.—A. M. ASAY and J. L. ASAY, of Philadelphia, Pa.—*Improvement in Artificial Teeth.*—Patent dated March 26, 1861.—This invention consists in forming moulds for casting artificial teeth, so that depressions of any size or shape may be formed in the bases of teeth during the process of casting, thereby saving the labor of grinding them to the required shape. The parts are so constructed that teeth of any required length of gum may be formed in the same mould.

Claim.—First, so constructing moulds for artificial teeth that by the use of movable pieces B B and supplementary pieces C′ C′ blocks of teeth of any required depth of gum may be formed in the same mould.

Second, the use of a movable piece B, with its projection *m*, for the purpose of forming a depression of any required form in the base of the block.

Third, the combination of the base A and cap D of the mould with the movable pieces B, supplementary pieces C′ C′, guide-rods *x*, and pins *c*, the whole being arranged substantially as and for the purpose set forth.

No. 31,771.—H. H. BALLARD and H. MCCLURE, of Mount Pleasant, O.—*Improved Plough.*—Patent dated March 26, 1861.—On each side of the slot in the beam A, in which the coulter plays, are the two curved pieces, and working up and down between them, and pivoted to the frame, is the lever E, which can be retained at any angle by inserting a pin in one of the holes in the curved pieces C C. To the lower end of the lever, and a little above its pivot, are pivoted straight bars, one on each side, which at their outer ends are pivoted to the top of the coulter. A pin inserted in the frame A retains the coulter, when in a working position, while by raising lever F the point of the coulter can be raised at any time. The converging fins on the mole compress the earth so as to close the opening made by the coulter.

Claim.—First, the combination of the curved pieces C C with the frame A, and mole and coulter, substantially as set forth, whereby the coulter and mole can be raised and turned over above the frame, and there securely held for transportation or storage.

Second, the combination of lever E and curved pieces C C with the frame A, and coulter D, and mole, substantially as set forth, whereby the point of the mole can be raised by lever E, at the will of the driver.

Third, the fins or compressers *e e*, in combination with the mole and coulter, when arranged in relation thereto as and for the purposes set forth.

Fourth, forming the sides of the front of the mole parallel in combination with providing the middle of the mole with conveying pins, as set forth.

No. 31,772.—LEON PIERRE BARRE, of Paris, France.—*Improvement in Steam Boilers.*—Patent dated March 26, 1861.—A cylindrical mandrel, constructed of several pieces joined together by a screw thread, is driven in the whole length of a boiler tube, which it fills, and is then stopped by the shoulder on the mandrel bearing against the end of the tube. The remainder of the mandrel is of the same size as the tube, and just fits the orifices in the end plate of the boiler. On striking the end of the mandrel the tube is driven out laterally, and at the same time the incrustations are detached from the sides of the tube.

Claim.—First, the fitting or fixing the tubes of tubular steam boilers by means of small flanged tubes with collars, by means of cement for producing a steam and water-tight joint

between the said boiler tubes and the end plates of tubular steam boilers, as described and represented in Figs. 1 to 4 of the annexed drawing.

Second, the construction and employment of a mandrel for facilitating the cleaning of tubes in tubular boilers, as described and represented in Figs. 5 and 6 of the annexed drawing.

No. 31,773.—A. H. BLACK and C. R. BLACK, of Indianapolis, Ind.—*Improvement in Hygrometers.*—Patent dated March 26, 1861.—This invention consists in the use of a twisted awn or beard of the grass called "stipa," one end of which is secured to the centre of the back of the box, and to the other end is attached an index working over a dial.

Claim.—As an improved article of manufacture, a hygrometer which has its axis made of the order of grasses, "stipa," with two or more indices thereto attached, and otherwise constructed as shown and described.

No. 31,774.—JOHN BLUE, of Covert, N. Y.—*Improvement in Harvesters.*—Patent dated March 26, 1861.—The object of this invention is to obtain a one-wheeled harvester which will admit of having its finger-bar and sickle capable of adjusting themselves parallelly to the inequalities of the surface, and thereby enable the sickle to work as close to the surface of the ground as may be desired, without coming in contact therewith, and without being affected by the vertical movement of the driving wheel, produced by the inequalities of the surface.

Claim.—The attaching of the finger-bar U to a plate or frame R, which has its front end connected by a joint to a plate B, the back part of which is attached to the axle C, the joint connexion of the frame R and plate B being attached to the back part of the draught-pole A, and at any point in front of the axle, to operate as and for the purpose specified.

No. 31,775.—M. E. BOLLINGER, of Littlestown, Pa.—*Improvement in Oscillating Engines.*—Patent dated March 26, 1861.—The cylinder is suspended from its upper side by a single trunnion journalled at each end to standards. The trunnion performs the functions of supply and exhaust valves, being perforated centrally, and formed with a partition which separates the induction port from the exhaust port. A toothed segment provided with a handle is pivoted to one of the standards, and meshes into a pinion secured to the trunnion. Beneath the cylinder is placed a spring which receives the momentum of the cylinder and assists its return stroke.

Claim.—First, suspending an oscillating cylinder by a single shaft or trunnion on its upper side, as set forth.

Second, the trunnion or hollow shaft B, containing at its respective ends the induction port *f* and the exhaust port *e*, and applied to the cylinder A in the manner and for the purposes set forth.

Third, the combination of the segment rack G with the pinion I, for rotating the trunnion B, in the manner and for the purposes explained.

Fourth, the spring K, or its described equivalent, applied to the cylinder A, to equalize its motion, as set forth.

No. 31,776.—SAMUEL BOORN, of Lowell, Mass.—*Improvement in Pickers for Looms.*—Patent dated March 26, 1861.—This invention relates to the socket-head which contains the horn cushion or bushing against which the point or nose of the shuttle acts, while the shuttle is being ejected from one of the shuttle-boxes. By notching the head the horn cushion is allowed to expand laterally without powdering under the blows of the shuttle, and the surplus of the cushion may be readily removed.

Claim.—The improved movable shuttle-box picker, as made with its head A, notched with respect to its shuttle cushion B, substantially in the manner and for the purpose as described.

No. 31,777.—E. S. BOYNTON, of Alexandria, Va.—*Improvement in Iron Masts, Steeples, &c.*—Patent dated March 26, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—The constructing of masts and spars and such perpendicular structures as require height and stability by means of flat bars of wrought iron or steel, made continuous by riveting the ends of the bars together, and winding them spirally around from the bottom to the top of the structure, one portion winding around in one direction and the other portion winding around in the reverse direction, so as to form spiral or diagonal braces throughout the structure, secured together at the points of intersection, and relying on said continuous braces for their support, without the aid of longitudinal or circular ribs or any internal framing, substantially as described.

No. 31,778.—FELIX BRUNON, of Philadelphia, Pa.—*Improved Register for Omnibuses, &c.*—Patent dated March 26, 1861.—This invention consists of one or more levers, each having a spring dog or its equivalent, in combination with a graduated ratchet wheel or wheels, a screwed spindle and a stationary graduated bar, the whole arranged in connexion with a yielding step, platform, or door of a vehicle, so that the number of passengers who enter the same is involuntarily registered by the passengers themselves.

Claim.—First, one or more levers H, each having a spring dog *a*, or its equivalent, in combination with a graduated ratchet wheel or wheels E, the screwed spindle F, and gradu-

ated bar G, the whole being arranged and operating substantially as and for the purpose set forth.

Second, the pin *f*, with its cut away or eccentric end in combination with the lever H, a spring dog *a*, and the ratchet wheel E, the whole being arranged substantially as set forth for the purpose specified.

No. 31,779.—O. H. BURDETT, of Moorfield, O.—*Improvement in Removing Saw-dust as it is formed.*—Patent dated March 26, 1861.—Under the circular saw is secured one end of a spout which slopes upward and within which runs an endless belt which is made to carry the saw-dust to the upper end of the spout, the latter having also side-branch conducting-spouts, so as to carry off any dust from the partition in the spout, and keep the lower length of the carrier clear.

Claim.—The arrangement for, or in connexion with, the mill and its saw, with an upwardly inclining dust-spout E, and dust-carrier or endless belt F, operating to catch and convey the saw-dust in the manner described, when the same is combined or the spout provided at its delivery end with a branch conductor or conductors K, arranged between the upper and lower lengths of the carrier-belt, essentially as and for the purpose or purposes set forth.

No. 31,780.—EBENEZER CATE, of Franklin, N. H.—*Improved Device for Forming Horse-shoes.*—Patent dated March 26, 1861.—This device consists of a block of iron provided with a groove or recess having an annular projection in the bottom for giving the proper shape to the iron which forms the shoe. The bending of the piece is effected by hammering it around the curved part of the block.

Claim.—The portable device described, the parts being constructed, arranged and combined in relation to each as set forth, whereby the same tool or device used to form the iron into shape also answers the further and additional purpose of a forming block or pattern to give the desired curvature and shape to the shoe.

No. 31,781.—EBENEZER CATE, of Franklin, N. H.—*Improvement in Formation of Horse-shoe Iron.*—Patent dated March 26, 1861.—This invention is explained by the claim and engraving.

Claim.—Iron or other suitable metal rolled or fabricated into the form substantially as shown in Fig. 1, as and for the purposes stated.

No. 31,782.—T. W. CHATFIELD, of Utica, N. Y.—*Improved Refrigerator.*—Patent dated March 26, 1861.—This invention will be understood by referring to the engraving and claim.

Claim.—The arrangement of the ice-box E, cold-air chamber H, air-pipes F F, chamber C, air-chamber A A A A, substantially in the manner and for the purpose described.

No. 31,783.—Cancelled.

No. 31,784.—G. M. COOPER, of Litchfield, Mich.—*Improvement in Press for Packing Wool.*—Patent dated March 26, 1861.—This invention consists of a rectangular box having two adjacent fixed sides, the other two sides being hinged at their lower edges to the legs. A yoke provided with rollers is made, on being elevated, to close the two open sides. A sliding piston operated by a lever is made to compress the wool within the box when the latter is closed.

Claim.—The two adjacent vertical fixed sides C and D, two adjacent hinged and movable sides E and F, supporting the guide-rods K, hinged top H, sliding yoke L, and piston P, the whole being combined and operating together in the manner set forth.

No. 31,785.—B. F. COWAN, of Memphis, Tenn.—*Improvement in Fireplaces.*—Patent dated March 26, 1861.—In the rear of the grate is an air-space communicating with the outside of the apartment or house. The fire-back over the grate is deeply arched, and the flue leads from near the front of the same, for the purpose of consuming the air taken from the outside and more perfectly radiating the heat.

Claim.—First, the arrangement of a grate A, with an air-space B, in the manner described, at the back thereof, and a passage C, communicating with the outside of the apartment or house in which the grate is situated, as and for the purposes set forth.

Second, the combination with the above-mentioned grate A, air-space B, and air-passage C, of the form of radiator D, shown, as and for the purposes set forth.

No. 31,786.—ROWLAND CROMÉLIEU, of New York, N. Y.—*Improvement in Railroads.*—Patent dated March 26, 1861.—This invention is explained by the claim and engraving.

Claim.—Constructing railroads with three or more tracks on the centre rail, of which the driving wheels of the engine, placed perpendicular, run with smooth wheels and smooth rails on the level portion of the track, and cogged wheels and rack rails on the inclines working on the central rail track, while the side wheels of the rolling machinery are double flanged, and also the driving wheels, with short independent axles, the whole constructed, combined, and arranged substantially as described.

No. 31,787.—G. N. CUMMINGS, of Meriden, Conn.—*Improvement in Stilts.*—Patent dated March 26, 1861.—The foot-stand consists of a piece of iron provided with an upright portion made tapering and having on its rear side a wedge made to fit in corresponding cavities in the staff, where it is secured by means of a ring on the staff passing over the tapering end, thus enabling the foot-stand to be readily adjusted to different heights upon the staff.

Claim.—Constructing the stilt iron B B', as described, and securing the same to the staff of the stilt by means of a metal ring C and wedge projection D.

No. 31,788.—E. S. DAWSON and A. WEEKS, of Syracuse, N. Y.—*Improved Omnibus Register.*—Patent dated March 26, 1861.—This invention consists in a combination of wheels or cylinders and counter wheels, made to register respectively units, tens, and hundreds, with certain pawls and ratchets arranged in a rocking frame operated by a lever, to which the driver's strap is connected for the purpose of registering the entrance of each passenger.

Claim.—The arrangement of vibrating frame H, with ratchet *r s*2 and *t*, and arms *s v* and *w*, friction springs *p p p*, in combination with drums C and D, wheel G, all constructed and operating to produce a numerical series by revolving wheels, substantially as and for the purpose specified.

No. 31,789.—ALEXANDER DICK, of Buffalo, N. Y.—*Improved Bread-Slicer.*—Patent dated March 26, 1861.—Upon a table which is made in two parts is arranged a slide to move in grooves between the parts. A knife is mounted at the centre of the table and pivoted at one end to a bar hinged at its lower end, so as to allow of a backward and forward, as well as a downward, movement. Upon raising the knife after a slice has been cut, a finger Y is caused to come in contact with a lever which gives motion to a wheel that operates the slide and brings the loaf of bread forward for the knife to cut another slice.

Claim.—The arrangement of the slide B B, the wheel X, the finger Y, the lever Z, the spring S, the thumb-screw T, the wire U, the slot W, the tooth D, and the peg F, substantially as and for the purpose specified.

No. 31,790.—MILTON DILTS, of Columbia City, Ind.—*Improvement in Water-wheels.*—Patent dated March 26, 1861.—The adjustable slides consist of plates abutting against the outer part of the buckets C, and are placed at the inner sides of the outer part of the issues. They are secured in position by screws passing through the bottom plate of the wheel.

The plates or slides may be adjusted so as to extend more or less across the angles or turns of the issues to regulate the discharge of water.

Claim.—The arrangement of the adjustable slides D, with the peculiarly formed buckets C, in the manner and for the purposes shown and described.

No. 31,791.—JOHN S. ELLIOTT, of Philadelphia, Pa.—*Improvement in Gearing for Gas-Metres.*—Patent dated March 26, 1861.—The driven and driving wheels are arranged in pairs, each being fixed upon their respective axles, so that by operating the prime moving wheel the required periodical motion will be successively given to the respective pairs, the peripheries of the driving being nearly in contact with the teeth of the driven wheels, respectively. The movable figures on each disk are all covered except those indicating the whole amount of gas passed through the meter, thus preventing liability to mistake in reading.

Claim.—The application to gas-metres of the gearing described, the same being constructed and arranged to operate in combination with the openings in the face plate, substantially in the manner described and for the purpose specified.

No. 31,792.—J. W. EVANS, of New York, N. Y.—*Improvement in Railroad Car Springs.*—Patent dated March 26, 1861.—The dish-shaped cup is combined with a series of concentric steel disks, in such a manner that the plates will only be acted on, one after another, as the weight or load upon the spring increases, so that the strength and power of the spring is graduated in proportion to the load or weight applied. The dished cup is provided with a lip or projection for the exclusion of dust, water, &c.

Claim.—The arrangement and use of a concave dish-shaped cup F, provided with a projecting lip *w*, and annular recesses *m*, in combination with a series of annular steel disks placed loosely upon a ferrule E, the whole being arranged in the manner and for the purpose specified.

No. 31,793.—J. W. EVANS, of New York, N. Y.—*Improvement in Cushion Springs.*—Patent dated March 26, 1861.—The springs are formed of corrugated and conical or dish-shaped plates, each single plate being not more than $\frac{3}{16}$ of an inch in thickness, the plates being multiplied until the desired strength is attained. The diameter is graduated in relation to the thickness. By the use of thin plates a more equal and perfect quality of steel is obtained. Between the plates is placed a soft or elastic substance.

Claim.—First, grading the diameters of circular corrugated dish-plates, in combination with the grading of the thicknesses of the plates, in the manner as described, and for the purpose of obtaining the necessary strength and stiffness.

Second, the arrangement and combination of all the parts, as described, in the manner and for the purpose substantially as set forth.

No. 31,794.—THOMAS EVANS, of Watkins, N. Y.—*Improvement in Valves.*—Patent dated March 26, 1861.—The valve is secured to a ledge on the inner side of the lower ring, and is formed of a disk of India-rubber or other elastic material, having a piece of metal placed over its rear edge which is riveted to the flange, so as to form the hinge of the valve. The valve is loaded with a piece of metal, and has a sheet of metal on its under side.

Claim.—The combination and arrangement of the elastic hinge *c*, and parts *f g*, or their equivalents, with the metallic rim A, substantially as set forth.

Also, in combination therewith, the metallic counter-lining *h* of the flap, substantially as described.

No. 31,795.—L. FEAGAN, of Palmyra, Mo.—*Improvement in Hemp Carts.*—Patent dated March 26, 1861.—Upon detaching the thills, the cart is made to assume an upright position against the shock of hemp as it stands in the field, when the shock is securely fastened upon the cart by means of a rope and windlass. When the thills are again drawn down and replaced, they are held in position by means of a cross-bar on the front part of the frame.

Claim.—A cart constructed with the thills pivoted at F, as set forth, and held in position when loaded by bar D′, in combination with the windlass G and binding cord *c*, all being arranged as and for the purposes specified.

No. 31,796.—P. G. GARDINER, of New York, N. Y.—*Improvement in Cotton Presses.*—Patent dated March 26, 1861.—The lower platen is made to move upward by means of levers operated by screws, the levers crossing and passing each other in their motion, the parts being so arranged that the mechanism shall be contained within the space, or nearly so, occupied by the frame-work of the press, equal to the length of a bale of cotton.

Claim.—The arrangement and combination of the right and left screws S S′, pivoted nuts *o o*, and friction rollers P P′, resting on suitable ways R R′, attached to the frame J, when operating levers N N′, in the manner and for the purpose substantially as described and set forth.

No. 31,797.—A. A. GIBSON, of Worcester, Mass.—*Improvement in Skates.*—Patent dated March 26, 1861.—The skate iron is made in two parts secured together by a rule joint, the projecting portions of which are on the upper edge of the skate iron, leaving the lower edge continuous from front to rear.

Claim.—A skate that has its runner jointed in the peculiar manner shown and described, and otherwise made as set forth.

No. 31,798.—A. GIRAUDAT, of New York, N. Y.—*Improvement in Windmills.*—Patent dated March 26, 1861.—The radially sliding hinged sails are combined with swinging weights suspended from the ends of the arms, and arranged in such a manner that, by the action of the centrifugal force of the weights, the wings are moved towards the centre of the wheel whenever the force of the wind exceeds a certain point, and thus the speed of the wind-wheel is regulated.

Claim.—The arrangement of radially sliding hinged sails A A1 A2 A3, in combination with swinging weights *d* E, constructed and operating in the manner and for the purpose set forth.

No. 31,799.—RALPH GRAHAM, of Brooklyn, N. Y.—*Improvement in Faucets.*—Patent dated March 26, 1861.—This faucet is designed to be self-closing, so that the spring that restores the plug to its proper position also keeps the same down to its seat, and the cork will always remain closed except when held open

Claim.—The combination of the plug *d*, spring *h*, and stem *c*, in substantially the manner and for the purposes set forth.

No. 31,800.—HORACE GRAY and W. A. BURY, of Grosse Isle, Mich.—*Improvement in Farm Gates.*—Patent dated March 26, 1861.—The upper part of the rear frame post of the gate is provided with a ratchet wheel which is operated by pawls attached to the smaller arm of a lever pivoted to the end of the gate frame. To the long end of the lever is attached a rope, by pulling which the bolts are withdrawn from the gate, which then opens. A spring, rigidly attached at one end to the upper frame, passes loosely through a staple in the end of the shorter arm of the lever, which throws the latter back to its normal position, and the gate is fully opened by continuing to draw and slacken the rope.

Claim.—The arrangement of lever E, with pawls G and H, the ratchet-wheel B, the spring I, and catch M, and its concomitant parts, all as set forth.

No. 31,801.—JOSEPH GRAY, of Raymond, Miss.—*Improvement in Envelopes.*—Patent dated March 26, 1861.—This device is designed for the use of the Post Office Department, and consists of a bag or envelope, provided with elastic bands to hold an address card. The card has an address on each side, so that it may be readily turned when necessary.

Claim.—A mail or package envelope composed of an envelope A, bands C, and address card D, arranged as shown and described.

No. 31,802.—J. A. GRIDLEY, Southampton, Mass.—*Improvement in Ærometric Balance.*—Patent dated March 26, 1861.—By reason of the lesser specific gravity, and greater bulk of

the longer arm, as compared with the shorter arm, the balance is caused to oscillate with variations in the pressure of the atmosphere, and, so indicate the pressure upon a suitably arranged and graduated scale.

Claim.—A barometer composed of a balance beam having one of its two arms composed wholly or principally of wood, and the other principally or wholly of metal, a suitable support for such beam, and a scale upon which the degree of oscillation of the said beam can be indicated, substantially as set forth.

No. 31,803.—H. F. HART, of Brooklyn, N. Y.—*Improved Apparatus for Indicating the Position of the Water in Steam Boilers.*—Patent dated March 26, 1861.—Whenever the water in the boiler falls below the desired height or point, the vessel B is emptied sufficiently for the instrument to be overbalanced by the weight of the opposite vessel A and of the instrument on that side of the pivot, until a lever above strikes or rides over a pin or roller R, which lever is raised by the pin so as to permit steam to pass a valve and into a whistle, thus announcing for low water. When the water rises too high, the vessel A overbalances the opposite vessel and causes a corresponding alarm. The governing weight is designed to be moved upon the lower tube to regulate the height or level of water that may be desired before the alarm is to be given.

Claim.—First, the application and combination of two or more hollow vessels, as A B, of any size or shape, so placed and arranged in an instrument that, when it is attached to the boiler, as specified, one of the said vessels will be higher than the other or others, and higher than the usual water level in the boiler, and one of the said vessels will be lower than the other or others, and lower than the usual water level in the boiler, each vessel connected with the other by means of tubes C C C C, or their equivalents, in such manner as to secure a icontinuous passage for water or steam through the said vessels and connexions; the whole instrument suspended and turning on the pivot P, or its equivalent, operating as and for the purpose of detecting high and low water in boilers, substantially as described.

Second, in combination with the above, the governing weight H, of any size or shape, attached to the instrument at any place, as and for the purpose set forth, operating and controlling the range of water, substantially as specified, and changing the balancing power of the instrument.

No. 31,804.—DENNIS HAYES, of New York city.—*Improvement in Pumps.*—Patent dated March 26, 1861.—The water passages have holes or openings of taper form made through them transversely, and directly opposite the induction and eduction passages. The taper openings receive conical plugs, each of which is formed of two heads of circular form, to close the orifices of the taper holes. In one of these opposite plugs is fitted a double puppet-valve, formed of two heads attached to a common stem, and the other plug has a valve with a single head, the whole forming a double-acting pump, admitting of easy removal of the valves for repairs, &c.

Claim.—The placing of the valves K L in conical or taper plugs G H, which are fitted in the water passages B C, substantially as and for the purpose set forth.

Also, the combination of the double valve K with the single valve L, and the conical plugs G H, arranged for joint operation as and for the purpose set forth.

No. 31,805.—W. C. HICKS, of Boston, Mass.—*Improvement in Sewing Machines.*—Patent dated March 26, 1861.—Fitted upon a shaft arranged above the feed-wheel shaft is a small handle or lever passing through one of the brackets. By turning this handle to the right or left the feed-wheel is raised or lowered more or less, as may be required.

Claim.—The method, substantially as described, of raising or lowering and adjusting the feed-wheel, in relation to the sewing table, by combining with it, or the shaft or stud which carries it, an eccentric or screw, under operation by a hand-lever, or its equivalent, essentially as shown and described, whereby the adjustment may be effected whether while the machine is operating or at rest, for the purposes set forth.

No. 31,806.—W. B. HOPKINS, of Oakfield, N. Y.—*Improved Churn.*—Patent dated March 26, 1861.—This invention will be understood by reference to the drawing.

Claim.—The beaters *j j* and *k m*, the latter provided with spiral arms *n n*, constructed and operating substantially in the manner and for the purposes shown and described.

No. 31,807.—T. D. INGERSOLL, of Monroe, Mich.—*Improved Culinary Boiler.*—Patent dated March 26, 1861.—A culinary vessel, of any required form, is provided with a draught aperture or passage so arranged as to communicate with the interior of the vessel and the flue of the stove on which the vessel is placed, for the purpose of carrying off steam and effluvia from the cooking substance. One or more blades are attached to the cover of the vessel, so arranged as to stir the contents when necessary. In connexion with the cover is used a tube, so that access may be had to the interior of the vessel for the purpose of examining the contents of the vessel from time to time, or for the admission of food, &c.

Claim.—First, a draught aperture or passage B, applied to a covered culinary vessel A, when used in connexion with pendents or stirrers D, attached to the cover C, substantially as and for the purpose set forth.

Second, the tube E, placed in the cover C, and provided with a stopper F, when used in conneixon with the draught aperture or passage B for the purpose set forth.

No. 31,808.—MICHAEL JOHNSTON, of South Boston, Mass.—*Improvement in Cigar-Holders.*—Patent dated March 26, 1861.—The holder is so constructed that the smoke will be drawn from the cigar, through a small tube, into a metallic globule, and from thence through the main stem, which is held in the mouth.

Claim.—The cigar holder, constructed of parts *g c b d* and *a*, arranged as and for the purposes described and shown.

No. 31,809.—EUGENE LEFAUCHEUX, of Paris, France.—*Improvement in Fire-arms.*—Patent dated March 26, 1861.—The hammer is made to cock on turning back the breech-piece when the gun is to be loaded, and after replacing and closing the breech-piece the gun is ready to be discharged.

Claim.—In combination with a fixed barrel, the movable breech-piece and hammer, constructed and arranged so as turn on one and the same axis substantially as described and shown.

No. 31,810.—W. H. LOCKE, of Canton, Pa.—*Improvement in Scrolls of Water Wheels.*—Patent dated March 26, 1861.—The scroll is cast in two vertical semi-cylindrical divisions, on one of which is cast a projecting wing piece, and in this piece is a vertical opening between the division and the outer portion of the wing-piece, which is formed into a cylindrical pillar, the latter being embraced by a curved ear-piece cast on the other division.

Claim.—Casting the joint, consisting of the ear-piece *m*, opening *i*, and pillar *n*, entire with the divisions of the scroll, as set forth.

No. 31,811.—S. H. LONG, U. S. A., of Alton, Ill.—*Improved Dredging Machine.*—Patent dated March 26, 1861.—This invention consists of a triangular frame composed of strong wooden beams, with side timbers, timber stiffeners, and parallel guide timbers, &c., and provided with iron scrapers; the whole to be attached, when in operation, to the bow of a suitable dredge boat or tug.

Claim.—First, the construction and operation of a scraper for opening channels across bars, &c., substantially such as described.

Also, the application and use of such a scraper with a steam tug or tow-boat for dragging it across the bar in the direction in which the channel is to be made, substantially as set forth and explained.

No. 31,812.—J. B. LYONS, of Baltimore, Md.—*Improved Stump Extractor, &c.*—Patent dated March 26, 1861.—This machine consists of a truck frame mounted upon two inwardly inclined wheels, upon which is placed, between an upright and an obliquely placed frame, the bearings of a long screw provided with a nut, to which is secured a chain passing over a pulley on the rear upright. The screw may be worked by hand by means of a toothed wheel with radial handles, or by means of a drum properly connected to the end of the screws, the drum having a rope which may be attached to an animal when greater power is required.

Claim.—First, the combination of the double bow truck-frame A, mounted on oblique conical wheels B, with the hoisting device formed of the screw H, nut J, and chain R, all being arranged for joint operation substantially as and for the purpose set forth.

Second, the combination of the screw H, nut J, gearing L O, and the drum Q, with chain or rope *h* attached, arranged and applied to the truck to operate as and for the purpose specified.

No. 31,813.—W. H. MAIN, of Liverpool, Ohio.—*Improvement in Rotary Harrows.*—Patent dated March 26, 1861.—The circular harrow is hung to the frame in such a manner that by means of lever J the periphery of the harrow may be made to bear against the felloe of the wheel, which causes it to revolve. The lever J may be shifted so that the harrow will bear against either wheel to change the direction of its rotation. The lever L is designed to raise the harrow from the ground when it is not in use.

Claim.—The arrangement of the levers J and K, cross-bar G, rods E, braces F, arms D, harrow H, and wheels A, the whole being constructed, operated, and operating as and for the purpose described.

No. 31,814.—J. E. MALLOY, of New York city.—*Improvement in the Preparation of Fibre for the Manufacture of Paper.*—Patent dated March 26, 1861.—The plant from which the fibre is to be separated is macerated, while green, in cold water, and after a sufficient time it is combed and rubbed out while under water at one continuous operation.

Claim.—The process of separating fibre from fibre-yielding plants; as set forth, consisting of the separate and successive steps of combining, rubbing, and washing the plants in cold water; the whole forming one continuous operation, performed while the fibre is fresh and plant undessicated, as set forth.

No. 31,815.—C. A. McEvoy, of Richmond, Va.—*Improvement in the Mode of Loading Fire-arms.*—Patent dated March 26, 1861.—The cartridge is made of a rectangular piece of sheet-metal, parchment, or other suitable material, provided at top and bottom with a series of parallel incisions, so that the single strips on the lower part will meet in the centre, the upper edge being turned down so as to form a rim on the outside. This is inserted in a metallic tube. The gun for which this cartridge is designed has a recess formed within the muzzle end, of a size to fit the end of the cartridge tube and covering, and the charge is pushed through the tube into the breech, leaving the tube at the end of the gun to be used for a new cartridge.

Claim.—The combination of a cartridge with a tubular cartridge protector A, open at both ends, so that, in loading the gun, the charge can be pushed through and detached from the said cartridge protector substantially as set forth.

Second, a charge receiver, provided with a series of incisions, and rolled up so as to form a top rim C and a closed bottom D, substantially in the manner and for the purposes set forth.

Third, the combination of the cartridge and tubular protector described with a circular recess F, in the muzzle end of the gun, substantially as and for the purposes set forth.

No. 31,816.—Archibald McGuffie, of Rochester, N. Y.—*Improvement in Railroad Chairs.*—Patent dated March 26, 1861.—The chair is divided longitudinally into two wedge-shape sections, one section being provided with a tongue and the other with a corresponding groove, so that they may clamp the sections of the rail, and hold them firmly by merely driving them together.

Claim.—Dividing the chair into two wedged-shaped sections A and B, provided, respectively, with the groove or hook *h* and wedge *d*, the whole operating in the manner and for the purpose substantially as described.

No. 31,817.—J. L. McPherson and J. S. Harbison, of Sacramento, Cal.—*Improvement in Wind-Wheels.*—Patent dated March 26, 1861.—The two wheels are placed one within the other, the fans of the smaller wheel being set flatter to the wind than those of the other, and causing it to revolve faster. On the end of the shaft of the smaller wheel is affixed a spiral cam, of a size to effect the required stroke, in the groove of which cam a pin is moved back or forth, according to the force of the motive power. The oscillation of the pin is regulated by a spiral spring to which a cord or strap is fastened, the other end of the cord being attached to the projecting end of the shaft of the small wheel so that the strap winds or unwinds around it, according as the small wheel is driven with sufficient force, in relation to the large one, to overcome the tendency of the spring.

Claim.—The arrangement of two concentric wind-wheels A C one within the other, the shaft E of the smaller wheel revolving within the hollow shaft D of the larger wheel, in combination with a spiral cam L, strap R, and spiral spring Q, substantially as and for the purposes set forth.

No. 31,818.—Robert McNie, of New York, N. Y.—*Improvement in Lithographic Presses.*—Patent dated March 26, 1861.—This press is intended to sponge, ink, and print automatically. The paper is laid on the tympan at M′. The ink-rollers Q Q are made to pass over the stone on the bed B, as often as may be required, by means of the vibrating arms O, and as the stone and bed B are passed under the scraper D′, the impression is made, and the printed paper removed from the tympan, which is caused to rise from the stone, while the latter is sponged, by means of the box J′. The motion of the bed and stone are reversed by the belt-shifter G, and the operation repeated.

Claim.—First, the arrangement of the ratchet K, pawl L′, lever M, reciprocating rod T, ink-carriage P, arm V, levers W X, upright *q*, and the notched flange *r*, or its equivalent, for the purpose of forming an automatic inking device as and for the purpose set forth.

Second, the pendent arm F′, attached to the shaft *d*′, bar G′, provided with shoulders *f*′, and attached to arm F, in connexion with the lever H and belt-shipper G, all being arranged as shown for automatically shipping the belt, as set forth.

No. 31,819.—Hiram Moore, of Fond du Lac, Wis.—*Improvement in Seed-Drills.*—Patent dated March 26, 1861.—This invention relates to that class of seed-drills in which the drills are arranged to drag behind the seed-box and form furrows by displacing the earth by pressure, and not by ploughing, the object being to more easily press the drills into the earth to any desirable depth, and at the same time have them free to rise separately in passing over obstructions, and also to raise them from the ground for convenience in backing or removing from place to place. The gearing upon the driving wheel is so arranged that the amount of grain to be sowed per acre is easily regulated.

Claim.—First, the combination of a hinged drill bar, a series of rigid shank-trailing drills, and a corresponding series of springs to connect the shank and bar, so that by turning the latter the drills may be pressed with more or less force into the surface of the ground, (as the ground is harder or softer, or a deeper or shallower furrow is required,) or may be lifted above the surface, substantially as described.

Second, a series of trailing drills having rigid shanks connected to a hinged drill bar by springs that will resist lateral flexure to maintain the relative distances of the drills apart, while free to flex upward and downward to enable the drills severally to conform to uneven surfaces, substantially as described.

Third, curves at the upper ends of the drill shanks, as shown at R, in combination with the springs, substantially as and for the purposes set forth.

Fourth, a lever, in combination with the hinged drill bar and a series of trailing drills connected to the bar by springs, the arrangement of these parts being such that, by turning the lever, all the drills will be simultaneously forced into the earth or raised therefrom, and when forced into the earth the shank of each drill throughout its entire length will still be left free to play up and down to the extent which the elasticity of the spring will permit, to allow the drill to pass over obstructions and to conform to inequalities of the surface, substantially as described.

Fifth, arranging the mouths of the conduits on the drill shanks as nearly as may be in the line of the axis of motion of the hinged drill bar, so that raising and lowering the drills will change as little as may be the positions of the mouths of the conduits on the drill shanks relative to the positions of the lower ends of the hopper spouts, substantially as described.

Sixth, the combination of a removable driving shaft with a series of seeding cylinders having independent bearings, whereby said shaft can at pleasure be removed to allow any of said cylinders to be taken out for repairs without displacing the rest, substantially as described.

Seventh, a series of helical gear, having teeth of varying numbers and pitch, in combination with a shifting pinion, for purposes substantially as described.

No. 31,820.—JOHN MURDOCK, of New York, N. Y.—*Improvement in Bank Notes.*—Patent dated March 26, 1861.—The object of this invention is to produce a bank bill which cannot be altered, the entire printing, wording, or lettering, with signature of the officers, &c., being made on the face of the note within the space covered by the large numeral which designates the denomination of the note.

Claim.—A bank note in which all of the printing, engraving, and writing are embodied in the form of a numeral designating the denomination of the note, substantially as described, for the purpose specified.

No. 31,821.—ASAHEL OSBORN, of Morris, N. Y.—*Improved Quilting Frame.*—Patent dated March 26, 1861.—Two arms are hinged to a frame on standards, and may be held up by buttons or hooks when in use. Upon the arms are slides, which may be secured in position by pins. Attached to the slides are rollers provided at their ends with ratchet wheels, which are held by pawls when the quilt is roiled up.

Claim.—The combination of the rolls E, arms B, slides C, with the frame A, substantially as and for the purpose specified.

No. 31,822.—J. H. PATTERSON, of Schaghticoke, N. Y.—*Improvement in Drying Pasteboards.*—Patent dated March 26, 1861.—This invention consists in placing wet or green boards, as they are taken from the cylinder of the machine, within portable hinged frames which are made open and provided with wires, by which means they are more quickly dried and readily handled.

Claim.—The facilitating of the curing or drying of wet paper or pasteboard sheets, in the manufacture of the same, by placing or enclosing the sheets in frames constructed substantially as set forth.

No. 31,823.—THOMAS PHILLIPS, of Ann Arbor, Mich.—*Improved Arrangement of Carriage Springs.*—Patent dated March 26, 1861.—In the upper ends of the two double brace standards are fastened blocks or rollers of cast-iron having a convex upper surface and groove in which to place the spring. The blocks are pivoted to admit of a motion conformably with the springs, and the standards may be adjusted nearer to or further from the wheels so as to increase or diminish the elasticity of the spring.

Claim.—The combination and arrangement of the compound lever spring, the rollers attached to the spring, and the two standards, as described, for the purpose set forth.

No. 31,824.—W. G. REED, of Chelsea, Mass.—*Improvement in Metallic Roofing.*—Patent dated March 26, 1861.—The rafters are each formed of two longitudinal parts of V-shape in their transvere section, and provided with flanges, one at each side, so that when put together the rafters are of quadrilateral form. Between the rafters are placed metal plates, the edges of which are fitted between the flanges of the rafters, and are bent up against the inner side of the rafter so as to form gutters for the purpose of making the joint water tight.

Claim.—The tubular rafters C, when constructed of two longitudinal parts *a a*, provided with flanges *b b*, and used in connexion with plates D, the edges or sides of which are secured between the flanges *b*, and bent so as to form gutters *d d* within the rafters, to operate as and for the purpose set forth.

No. 31,825.—W. C. RENTGEN and P. H. HUMES, of Keokuk, Iowa.—*Improved Fan Attachment to Threshing-Machines.*—Patent dated March 26, 1861.—The fan, with its case, is placed directly over the cylinder or beater box, and is so arranged as to draw in the dust as it is ejected from the beater box and force it in a direction from the attendant.

Claim.—A fan arrangement, consisting of a fan placed in a proper case, to which there is a suitable induction and eduction passage, the whole constituting a single trunk extending from the front to the rear of the machine, and so arranged that the draught at the orifice of the induction passage shall be vertical or nearly so, substantially in the manner described.

No. 31,826.—C. H. REYNOLDS, of New York, N. Y.—*Improved Wrench.*—Patent dated March 26, 1861.—The movable or sliding jaw of the wrench is operated by means of a rotating screw collar, which is allowed a longitudinal play on the shank of the wrench, and is used in connexion with a handle secured to the shank of the wrench by a joint or pin, and so arranged as to perform the function of a lever and act upon the screw collar and sliding jaw, so as to cause the nut to be firmly grasped between the jaws as the wrench is turned.

Claim.—The collar B, having a longitudinal play or movement on the cylindrical part *b*, of the shank A, provided with the screw thread *c*, and fitted in the nut *d*, of the sliding jaw E, in connexion with the pivoted handle F, arranged in relation with the collar B, to operate as and for the purpose set forth.

No. 31,827.—G. C. ROBINSON, of Boston, Mass.—*Improvement in Apparatus for Drying Salt.*—Antedated October 8, 1860.—Patent dated March 26, 1861.—The platen having a rotary motion, the salt which is delivered near its centre is gradually propelled to the periphery of the platen by means of teeth or scrapers having their lower edges fitting closely down to the platen. The salt is thrown off by a scraper at the point of discharge. A supplementary scraper or leveller is employed to level down the ridges caused by the action of the teeth. Near the periphery of the platen is a circular flange revolving in a packing of sand placed in a circular channel in the upper part of the outside casing of the heat chamber, to prevent the heat and smoke from escaping around the revolving platen.

Claim.—First, the revolving platen *a*, in combination with the teeth or scrapers *j*, or their equivalents, constructed and arranged substantially as described.

Second, the discharging scrapers *p*, for the purposes set forth.

Third, the supplementary scraper or leveller *r*, arranged in my machine substantially as described.

Fourth, packing the outer periphery of the revolving platen of my rotary salt-dryer with sand or other incombustible powder, substantially as described and for the purposes set forth.

No. 31,828.—MARTIN ROE, of Townsend, Ohio.—*Improvement in Sugar Mills.*—Patent dated March 26, 1861.—The ends of the crushing bar are placed in guides so that the bar is made to work in front of the rollers, and has an up and down motion given to it by means of two eccentrics placed below it, and to which it is connected by means of straps. The cane is fed to the rollers by an endless apron, the parts being so connected as to have a simultaneous motion.

Claim.—The crushing bar P, operated as set forth, in combination with the apron O and rollers H K, when operating conjointly in the manner and for the purpose described.

No. 31,829.—N. G. ROSS, of Cincinnati, Ohio.—*Improvement in Sewing Machines.*—Patent dated March 26, 1861.—This invention relates to machines which work the double loop stitch. The looper is so constructed and operated as to take the needle thread at such a distance below the fabric as to enable it to enter the loop in its most opened part, and to spread its own loop and shed it so near the fabric as to insure the engagement of the needle in the lower loop, with a comparatively short stroke of the needle and slight wear of thread.

Claim.—The obliquely-slotted looper J, adapted to traverse when in action, a fulcrum *c*, its lower end receiving a circular motion from a crank I, and its upper end the described combined rocking and up and down motion, so as to enter the upper loop at its widest part and to shed its own loop near the cloth, in the manner and for the objects stated.

No. 31,830.—J. S. SHAILER and G. F. FOLSOM, of Roxbury, Mass.—*Improvement in Water Metres.*—Patent dated March 26, 1861.—This invention consists of a cylindrical vessel divided by means of three partitions and a tube into three chambers, one of which is termed the induction chamber, and the other two the float chambers, in which are placed floats of proper shape provided with a stem or projection. An eduction chamber, formed on one side of the central tube, has one or more entrance ports through its bottom so as to open communication with the chamber of a valve F. From the two partitions *b c* rise two standards which support a rocker-shaft from which projects a weighted valve-tripper having an auxiliary tripper below, by which means the water is made to enter and leave alternately the two chambers.

Claim.—The described arrangement of the induction chamber B, the two float chambers C C′, the eduction chamber E, the chambered valve F and its ports, the two floats D D′, and the valve-tripping apparatus, the whole operating together in manner and under circumstances substantially as specified.

No. 31,831.—MINARD SNELL, of Medina, Ind.—*Improvement in Stave Machines.*—Patent dated March 26, 1861.—In this machine two circular saws are employed, one cutting at right angles to the other, thereby sawing a board or stave from the log of the proper width and thickness at one and the same operation. Logs or sections of logs of various lengths and diameters are secured between two adjustable centres or dogs, which have their bearings on the head-blocks of the carriage and are so constructed and arranged that a log may be rotated and also readily adjusted laterally up to the saws.

Claim.—The centring dogs *h h'*, spur wheel P, and worm-shaft J, in combination with the pivoted arms *k k* and adjusting rod H, the same being arranged on the sliding head-blocks G G', and constructed substantially as set forth, for the purpose described.

No. 31,832.—RICHARD SOLIS, of New Brunswick, N. J.—*Improvement in Machinery for making Elastic Shirred Goods.*—Patent dated March 26, 1861.—This invention consists in the employment of a roller provided with circumferential and longitudinal grooves, in connexion with a roller having a yielding surface or periphery, whereby India-rubber cords are placed and secured longitudinally between two layers or laminæ of cloth, and the latter crimped or corrugated transversely, the whole being done at one operation instead of two, as is usual.

Claim.—The combination of the circumferential grooves *i* and longitudinal or other crimping grooves *j* in roller B, when used in connexion with the roller C, to operate substantially as and for the purpose set forth.

No. 31,833.—JOHN STEVENS and FRANCIS STEVENS, of New York, N. Y.—*Improvement in Hemmers and Folders.*—Patent dated March 26, 1861.—This invention consists in the combination of feed rollers with plaiters or slats for making the plaits, so that the cloth, being drawn forward and passing through the plaiters, is caused to assume the form proper for plaits. With the plaiters is combined an apparatus for turning the hem on the inner edge of the shirt front, which is constructed in two parts, each being twisted or turned over once; the lower or outside piece turning the cloth over once, and the upper or inner piece or guide, in combination with the motion of the cloth, turning it the second time. A spreader is combined with the hemmer and with the plaiters.

Claim.—First, the combination with the plaiters, 8, 9, 10, and 11, 12, and 13, of the feed rollers, 18 and 22, by which the cloth is drawn forward and plaited, as set forth.

Second, the combination with the plaiters, 8, 9, 10, and 11, 12, and 13, of a hemmer, 1, 2, constructed and operating substantially as set forth.

Third, the combination of a stretching, smoothing, or straightening edge, 6, with the hemmer, 1, 2, as set forth.

Fourth, the combination of a stretching, smoothing, or straightening edge, 6, with the plaiters, 8, 9, 10, and 11, 12, and 13, as described.

Fifth, the construction, arrangement, and operation of the plaiters, 8, 9, 10, and 11, 12, and 13, as set forth.

No. 31,834.—H. A. STONE, of Battle Creek, Mich.—*Improvement in Pressing Cheese.*—Patent dated March 26, 1861.—This invention consists of a perforated cylinder in combination with a perforated head at each end, for the purpose of freeing the whey from the cheese by the weight of the latter, the cheese being turned over with the cylinder as the curd forms on the lower side.

Claim.—The perforated cylinder A, in connexion with the perforated heads B B, provided with legs, *d d d d d*, operating substantially as described and for the purpose set forth.

No. 31,835.—T. F. TAFT, of Worcester, Mass., assignor to Himself and A. P. BROWN, of same place, and WILLIAM M. PAGE, of St. Louis, Mo,—*Improved Shear and Punch.*—Patent dated March 26, 1861.—From one side of the base of a frame projects a curved neck B, which supports the parts F' C and D, all being cast in one piece. The upright part is cored out so as to receive two slides provided at their lower ends, respectively, with a punch and shear which have a reciprocating movement given them by means of an eccentric on a shaft passing through the upper part of the upright.

Claim.—As an improved article of manufacture, a combined shear and punch, in which the parts A B C D and F' are all cast in one piece, in combination with coring out the parts C and D, substantially as described.

No. 31,836.—ROBERT TAYLOR, of New York, N. Y.—*Improvement in Canal Lock Gates.*—Patent dated March 26, 1861.—The circular face gate is attached to side pieces or a framework extending from an iron hub that plays on a pin or axle inserted in the sides of the lock at a point that would be the centre of a circle formed by the periphery of the gate, and is combined with a circular breast wall that forms the lower part of the gate. The gate is raised and lowered by means of compensating weights connected to it by a chain operated by proper gearing. The gate is made to serve as a wicket by having the lower portion of its face across its entire length, in one piece or more, cut off and hinged to the upper part so that it will play backward and forward. The wicket leaf is kept open by means of counterpoise weights, and, when the gate is let down an inclined plane on the breast wall, act as a guide to swing it into position to be closed.

Claim.—First, a circular face gate for canal locks, the face of which is smooth and attached to side pieces or arms radiating from the journals or axle inserted in the side of the water way or sides of the lock, when used in combination with a similarly curved breast wall, which forms the lower part of the gate, substantially as described.

Second, in combination with such a gate, a wicket leaf, hinged or hung thereto, and operating in the manner and for the purpose described and represented.

No. 31,837.—I. P. TICE, of Baltimore, Md.—*Improved Machine for Turning Oval Frames.*—Patent dated March 26, 1861.—The object of this invention is to admit of a rotary cutter or a stationary chisel being used to cut out oval frames automatically, or without the usual manipulation of a cutter as used with ordinary oval lathes, the position of the work being made to change relatively with the cutter head or chisel by means of a vibratory movement given to the bed, through the medium of a rod and pinion, gearing with a toothed wheel on the lower part of the shaft connected with the bed on which the work is placed.

Claim.—The giving of the bed H of an oval lathe a vibratory movement simultaneously with its rotating and sliding movements, so as to admit of a rotary cutter or a stationary chisel, having, at all points of the rotation of the work R, a position at right angles with the face thereof, substantially as described.

No. 31,838.—A. G. TOMPKINS, of New York, N. Y.—*Improved Screw Propeller.*—Patent dated March 26, 1861.—This invention will be understood by reference to the engraving.

Claim.—Constructing the propeller with a flaring-edged felloe or continuous rim *a*, supported upon separate spokes or arms *e*, that radiate from the driving-shaft *b*, all in the manner and for the purpose shown and described.

No. 31,839.—MATHEW TRIMBLE, of Princeton, Ill.—*Improvement in Corn-Shellers.*—Patent dated March 26, 1861.—This invention consists of an arrangement of devices for feeding the ears of corn to the sheller. The bottom of the hopper is formed in grooves or troughs, operating in connexion with spikes and coves upon the cylinder; the spikes to keep the ears of corn straight in the troughs, and the coves acting to prevent more than one ear passing through the trough at a time.

Claim.—The arrangement of hopper A, in combination with cylinder B, pulley C, troughs D D, standard *e*, spikes *g g*, shaft *h*, coves P P, bearers *j j*, boxes *d d*, caps *f f*, substantially as shown and described.

No. 31,840.—ARTHUR WADSWORTH, of New York, N. Y.—*Improved Method of Operating the Second Hand in Stop-Watches.*—Patent dated March 26, 1861.—An intermediate wheel, arranged to gear into wheels placed one on the spindle of the second hand, and the other on that of the hour hand, is secured on an arbor fast to a slide, which is operated by a lever having one end projecting through the rim of the watch-casing, by which means the intermediate wheel may be brought into gear with both the other wheels, or only in connexion with the wheel of the second hand, when the independent second hand will be stopped.

Claim.—The manner of operating the intermediate wheel F by means of a lever I, in combination with a spring J, when arranged for the purpose substantially as specified.

No. 31,841.—ROSWELL WAKEMAN, of Port Deposit, Md.—*Improvement in Presses.*—Patent dated March 26, 1861.—The top of the press is formed of double trap-doors, which are opened to receive the article to be pressed, and when closed are firmly secured by a cross-bar placed under a yoke and spring, held by rods to which the pulleys are attached, by which, in connexion with pulleys attached to the platform, pressure may be applied above and below the hay.

Claim.—The arrangement of the double top doors, being secured by a cross-bar held at the ends under yokes or stirrups, in combination with springs, sliding-rods, pulleys, and windlasses, operating on both ends of the moving platform, substantially as described and for the purposes set forth.

No. 31,842.—P. D. WESSON, of Providence, R. I.—*Improved Steam-Trap.*—Patent dated March 26, 1861.—The valve-rod is placed between the two tubes, and being exposed to the air is maintained at a comparatively even temperature. It is so adjusted by means of screw-nuts at its upper end as to hold the valve open when the trap is cool and the tubes are contracted. The water of condensation will then escape at the open valve. As the steam again enters the pipe the expansion of the tubes will cause the valve seat to press against the valve and prevent the escape of steam.

Claim.—The use or employment of the tubes A B, valve-rod C, and valve J, when arranged and operating substantially as described, and for the purpose set forth.

No. 31,843.—MARTHA WILLIS, of Rochester, N. Y.—*Improvement in Obstetrical Bandages.*—Patent dated March 26, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—The arrangement of the open hip-spaces and elastic hip-bands *d d* and the prime and auxiliary elastic straps *h h* and *j j* for obstetrical bandages and supporters, substantially in the manner and for the purposes specified.

No. 31,844.—T. H. WILLSON, of Harrisburg, Pa.—*Improvement in Blowers.*—Patent dated March 26, 1861.—The wings of the blower-wheel are cast in a curved form and hollowing, having sides which converge from near the heel where they commence to the point of the wing, and upon their inner ends are cast heels, which form a hub when several are fitted together, metallic bands being shrunk over their projecting sides. The case is provided with an opening at a point nearest its centre for the admission of air.

Claim.—First, the employment of the blower-wheel as constructed, composed of a series of wings or arms D, cast in the form represented, and being secured together by means of the devices described, all as and for the purpose set forth.

Second, in combination with the subject of the first claim the fan-case, constructed in the manner and shape represented.

No. 31,845.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improved Steering Apparatus for Navigable Vessels.*—Patent dated March 26, 1861.—The object of this invention is to enable vessels whose bottoms have a spindle form to be steered with facility, and without causing the material rolling of the vessel by the action of the rudder. Two rudders are placed beneath the bottom of the vessel, at opposite sides of its longitudinal centre, and between the centre and extreme ends, and so connected that the turning of one rudder in one direction causes the simultaneous turning of the other rudder in the opposite direction.

Claim.—The combination of a vessel having a spindle-formed bottom, two rudders located below the bottom thereof, at opposite sides of the longitudinal centre, and mechanism to impart opposite movements to the rudders, substantially as described.

No. 31,846.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improvement in Stuffing-Boxes.*—Patent dated March 26, 1861.—The stuffing-box consists in the combination of a series of radiating sockets, to receive the packing in disconnected parts, with a corresponding series of independent compressers, by whose action the packing in each socket can be set up with the requisite force at different parts as may be required, independently of the packing of the remainder of the sockets.

Claim.—A stuffing-box consisting of a combination of radiating sockets with independent compressers, substantially as described.

No. 31,847.—JESSE YOUNG, of Franklin Furnace, O.—*Improvement in the Packing of Pistons for Steam Engines.*—Patent dated March 26, 1861.—This invention consists in placing between the metallic packing and the outside surface of the piston-head long spiral springs, their length, when compressed together, being the circumference of the cylinder, and their diameter corresponding to the space intended to receive them.

Claim.—The application of spiral springs for holding metallic packing against the surface of the cylinder, in the manner substantially as described.

No. 31,848.—O. C. EVANS, of New York, N. Y., assignor to Himself and L. D. TOWSLEY.—*Improvement in Fastenings of Metallic Bands for Cotton Bales.*—Patent dated March 26, 1861.—Near each end of a short piece of hoop or band iron is punched a slot, through which the hoop iron may be passed. Just behind each slot are raised one or more angular tongues, which are bent over the ends of the hoop to hold them in the slots.

Claim.—The combination of the slots *s s*, in the plate A, with the angular tongues *t t t t*, more or less as described and for the purposes set forth.

No. 31,849.—A. H. KNAPP, of Newton Centre, Mass., assignor to Himself and G. W. TISDALE, of Walpole, Mass.—*Improvement in Scissors.*—Patent dated March 26, 1861.—To the lower blade, at the ordinary place of junction, is secured a pivot which passes through a slot in the upper blade, and made parallel with the cutting edge thereof. Upon the upper blade is secured a projecting plate having a curved slot, which slides over a stud attached to the shank of the lower blade, by which means a drawing cut of one blade on the other is produced in such a manner that it may be uniform or irregular, as may be desired. Over each part of the pivot and pin that moves in the slots are placed anti-friction sleeves, to prevent wear of the parts and to diminish friction.

Claim.—The combination of the guide slot C and pivot D with the curved slot F and pin G, for producing any regular or irregular drawing cut desired, substantially in the manner and for the purposes specified.

Also, the bush sleeves *f f*, applied to and in combination with the screw pivot D, pin G and the slots C F, substantially as and for the purposes set forth.

No. 31,850.—W. A. N. LONG, of Fisherville, N. H., assignor to J. B. BLAND.—*Improved Bed Foundation.*—Patent dated March 26, 1861.—To the lower side of two transverse bars of the bedstead is fastened a series of springs closed at the lower part in a conical form, into which are fitted conical or conoidal blocks of wood, each provided with a rod projecting upwards and passing loosely through the cross-bars, and terminating in an eye for receiving a longitudinally placed slat.

Claim.—The described bed foundation made of the basket springs, slat supporters, and conical bearers, constructed, arranged, and combined together and with the cross-rails and slats of a bedstead, substantially in the manner specified.

No. 31,851.—J. W. NYE, of Fairfield, Vt., assignor to Himself and G. W. BALL, of St. Albans, Vt.—*Improvement in Dumping Wagons.*—Patent dated March 26, 1861.—Between the two side-frames of the wagon, but disconnected with them, is fastened a series of divisional partitions, each one of which is elevated upon trap-boards or bottom platforms, which are hinged to cross-bars and arranged in such a manner that the contents of one or more of the apartments may be discharged, as required.

Claim.—The improved dumping wagon, as constructed with the divisional partitions G G1 G2 G3, arranged and combined so as to operate as described, with hinged bottoms or platforms H H1 H2 H3 applied to the wagon body A, and disposed therein and with respect to one another, substantially as specified.

No. 31,852.—S. J. OLMSTEAD, of Binghamton, N. Y., assignor to JOHN ELLIS, of Detroit, Mich.—*Improved Gate Hinge.*—Patent dated March 26, 1861.—To the top of the rear post is secured an arm, to which is attached a pinion that works in a rack formed with an oval-shaped rim on the outside, and connected by a bracket to the post. The lower part of the gate turns upon a single point, so that, when opened, the gate is thrown off its balance and closed by its own weight, through the action of the rack and pinion.

Claim.—The special arrangement of the rack P, the pinion N and adjustable arm F, in combination with a gate, in the manner and for the purpose substantially as set forth.

No. 31,853.—EDWARD ROBERTS, of Philadelphia, Pa., assignor to CODE, HOPPER & GRATZ.—*Improved Time Tell-Tale.*—Patent dated March 26, 1861.—Secured to the spindle of the hour-hand of a clock is a removable disk or plate of paste-board or other similar material, upon which are marks representing the hours. The door or lid of the clock is provided with a slot, so that the watchman can, by inserting the point of a pencil, make a radial mark on the disk within the graduated edge of the same, by which means it can be determined in the morning by the proper officer who keeps the key of the clock, whether the watchman has made the proper mark at the proper time during the night. When it is found inconvenient to apply a new disk every day, use is made of a vertical lever hung to the door, and furnished with a spring and a pin for making rows of indentations on the disk, for the different days of the week.

Claim.—First, the detachable graduated disk F, applied to the works of the clock, substantially as set forth, in combination with the lid B, its openings *b* and *a*, and the pointer *x*, or its equivalent, when the said openings and pointer are arranged in respect to each other and to the disk as and for the purpose described.

Second, the spring lever I, with its adjustable pin K, in combination with the adjustable graduated disk and the lid B, and its openings *b* and *a*.

No. 31,854.—D. H. THAYER, of Lansing, N. Y., assignor to Himself and S. A. BAKER.—*Improvement in the Cutting Apparatus of Harvesters.*—Patent dated March 26, 1861.—As the sickle is operated back and forth on the fingers, all substances that may be drawn underneath the teeth will pass down through the recesses and out underneath the cutter-bar, and a free escape being thus allowed for said substances, the sickle is effectually prevented from choking or clogging, and also from gumming up.

Claim.—The arrangement of the cutters *e* and cutter-bar C, with the supporting projections *f*, knife-edged backward-opening recesses *b*, space between projections and fingers and finger-bar A, in the manner and for the purpose shown and described.

No. 31,855.—GODFRIED WEILAND, of Buffalo, N. Y., assignor to Himself and FRANCIS FISHER.—*Improved Straw-Carrier for Threshing Machines.*—Patent dated March 26, 1861.—Within the carrying apron is arranged a bent lever resting in a shoe supported on a cross-piece. Under one end of the lever is a spring which tends to hold it up against the apron. The other end of the lever is operated by a double-acting cam on the driving shaft, by which means the apron receives a succession of blows which shakes the straw and separates the grain.

Claim.—The arrangement of the lever F and spring J within the carrying apron, in connexion with the cam M, for operating the same, for the purposes and substantially as described.

No. 31,856.—J. B. WILSON, assignor to J. F. BODINE, of Williamstown, N. J.—*Improvement in Stoppers for Sealing Cans and Jars.*—Patent dated March 26, 1861.—This stopper consists of an elastic ring clamped between two disks, and expanded by metallic segments within it, which are forced outward by the conical neck of the clamping screw.

Claim.—The combination of the two clamping disks A B, expanding segments D, and elastic ring E, constructed, arranged, and operating together in the manner and for the purpose set forth.

No. 31,857.—JAMES HIGGINS and T. S. WHITWORTH, of Salford, England.—*Improvement in Spinning Machines.*—Patented in England October 13, 1860.—Patent dated March 26, 1861.—This invention relates to a method of mounting and supporting the spindles of the slubbing and roving frames, for the purpose of securing a greater degree of steadiness, so as to enable the spindles to be run at a higher speed than usual.

Claim.—First, giving support to a stationary tube or "bolster" through which the spindle passes, by a sliding bearing attached to the copping rail.

Second, so arranging the spindles and their tubes or bolsters that they may oscillate separately upon joints or other apparatus, for the purpose of adjusting themselves to a sliding bearing.

Third, connecting the spindle to the pinion by which it is driven so that it may be withdrawn therefrom without disturbing top bearings or other parts requiring readjustment.

No. 31,858.—LUTHER ATWOOD, of New York, N. Y.—*Improvement in the Manufacture of Hydro carbon Oils.*—Patent dated March 26, 1861.—This invention relates to the condensation of the liquid products of substances distilled in the manufacture of hydrocarbon oils, and it consists in subjecting these vapors to the direct action of ice, or mixed ice and salt placed in any suitable vessel connected with the condensing apparatus, and so arranged that the vapors, in passing through it from the condensing apparatus, come directly in contact with ice, or ice and salt. The vapors and gases are passed through the ice-chamber, in a descending current, in contradistinction to an ascending current, for the purpose of more thoroughly distributing them.

Claim.—The direct application of ice or ice and salt to the condensation of hydrocarbon oil vapors, substantially as described, and substantially for the purpose set forth.

Also, bringing the vapors by a descending current in contact with the surface of the ice or ice and salt, substantially as described.

No. 31,859.—G. W. BLAKE, assignor to Himself and L. W. BLAKE, of East Pepperell, Mass.—*Improved Belt Fastening.*—Patent dated March 26, 1861.—In the ends of the belting and in a direction with its length, are cut short slits, through which are passed studs formed with flat segmental heads upon each end; the studs are passed through the slits sidewise and turned, so as to lie flat on the outside of the belting.

Claim.—The employment of the double-headed studs *a a*, in combination with the belt ends, in the manner and for the purposes shown and described.

No. 31,860.—JOSEPH H. ATWATER, of Providence, R. I.—*Improvement in Portable Copying Presses.*—Patent dated April 2, 1861.—To a cylinder of sheet metal is attached a piece of cloth or paper of proper size and thickness to form an enveloping apron or cover for the book when wound around the cylinder. The book is made with a wedge-shaped back so as to wind gradually and smoothly around the cylinder by taking a number of sheets of this copying paper, and applying a cover of the thickness of common writing paper.

Claim.—A book with a wedge-shaped back, substantially as described for the purpose specified.

And in combination with a book, having a wedge-shaped back, a cylinder or roller provided with an apron to envelop the book, substantially as specified.

Also, interspersing leaves of thicker paper between portions of the copying paper in the copying book, substantially as described, so as to make the book more firm, and to prevent the leaves from being wrinkled.

No. 31,861.—FRANCIS BROWN BLANCHARD, of Brooklyn, N. Y.—*Improvement in Steam Boilers.*—Patent dated April 2, 1861.—The chimney is provided with a valve which, when closed, prevents the highly heated gaseous products of combustion from passing out into the air, and they are, therefore, forced through a tube to the steam-heating box. This box is constructed as a cylinder with two hollow heads, said heads being connected by tubes. The steam is admitted from the boiler between the heads and circulates around the tubes, passing out after having been heated by a tube to the engine. The heated gases pass from the steam-heater into the water-heater, which is constructed similarly to the steam-heater, and all its available heat is expended in heating the water. Air is introduced into the furnace by blast tubes. By this means, in connexion with the closed chimney, the amount of fuel consumed and amount of steam generated can be proportionally regulated, while the surfaces of the steam-heater and water-heater can be properly proportioned so as to take up all the heat from the gaseous products of the combustion, and thus produce steam of any desired constant pressure and temperature.

Claim.—The combination, in the manner substantially as shown and described, of the water-heater and steam-heater with each other, and with the boiler, air-pump, and chimney, all as set forth.

No. 31,862.—JOHN O. BLYTHE, of Germantown, Pa.—*Improved Door Springs.*—Patent dated April 2, 1861.—The arm *b* is bent at one end, which works in a slot upon the upper edge of the door; the other end is provided with a cam-like projection which bears against a spring in the back part of the slotted frame *a a* in the door frame. When the door is opened it has

a tendency to close, owing to the action of the spring against the cam-head; but when it passes the centre the spring acts to hold the door open.

Claim.—The peculiar construction of the arm *b*, as seen in Fig. 1, No. 1, at the point marked *g*, in combination with other parts of the machine to effect the purposes set forth, as stated.

No. 31,863.—R. BŒKLEN and W. STÆHLEN, of Brooklyn, N. Y.—*Improvement in Smoking Tubes.*—Patent dated April 2, 1861.—One end of the tube is tapered to receive an ordinary mouth-piece; the other end of the tube is narrowed, and is provided with a flange extending towards the centre of the tube, leaving a round opening. In this opening is inserted a short tube in which the cigar or pipe is inserted, and which has at its outer end a flange which bears against the flange on the large tube, and thus acts as a valve, the small tube playing freely. In smoking tubes for pipes a valve composed of a thin spring working over an opening in the periphery of the larger tube is preferred.

Claim.—First, a smoking tube provided with a valve or valves, operating substantially as and for the purpose set forth.

Second, the smoking tube formed with an enlarged interior chamber A, as shown and described, in combination with a valve C, for the purpose set forth.

No. 31,864.—AMOS H. BOYD, of Rockville, Mass.—*Improvement in Sewing Machines.*—Patent dated April 2, 1861.—The bent arms H H are pivoted to the front part of the machine, and are provided at one end with rollers which work in the grooves in the cam wheel, so that the points of the arms are caused to cross from one side of the needle to the other when the wheel revolves. Threads pass from the spools through holes in the extremities of the arms. The bar K has upon it the long ratchet tooth *a* which gears into the teeth of a cog wheel on the axle of a cam wheel G, and thus the motion of the bar K causes the revolution of the cam wheel.

Claim.—First, the employment of the cam wheel G, the eye-pointed crossing arms H H, a foot-piece N, and a needle, arranged and operating in the manner set forth, for the purpose of making the embroidery stitch represented.

Second, the employment of the bar K, the ratchet wheel D, the cam wheel G, and the arms H H, arranged in the manner represented, whereby the arms are made to cross under the foot-piece as often as it rises, substantially as set forth.

No. 31,865.—JOHN BRAINERD, of Cleveland, O., EDWARD F. OLDS, of Lyons, Mich., and ALONZO W. OLDS, of Green Oak, Mich.—*Improvement in Harrow Frames.*—Patent dated April 2, 1861.—The arms of the harrow frame are attached between the plates B and *b*, near their circumference, by bolts, in such a manner that any arm can be removed without disturbing the other. The arms gradually diminish in size from the point that they pass between the plates. The projection J is furnished with a slot and pin for the purpose of connecting two harrows to be drawn by one team. The box H surrounding the pipe or socket is for the purpose of containing a weight, so as to force the teeth of the harrow into the soil.

Claim.—The radial arms A, secured between the plates B and C, by the bolts A′, in combination with a central pin or standard D, socket or pipe E, projection J, box H, and draw-bar F, the several parts being constructed and arranged substantially as and for the purpose set forth.

No. 31,866.—JAMES H. BRECKENRIDGE, of Meriden, Conn.—*Improved Caps for Oil Cans.*—Patent dated April 2, 1861.—The object of this invention is to form a groove on the inner side of the cap to fit upon lugs on the mouth of the can.

Claim.—As an improved article of manufacture, a sheet metal can cap, having a portion of its exterior surface raised and formed into a groove of the form shown and described, for the purposes set forth.

No. 31,867.—J. E. BRIGGS, of Watertown, N. Y.—*Improvement in Brakes for Carriages.*—Patent dated April 2, 1861.—A transverse bolt passes through the rear end of the draught-bar and parallel pieces secured on each side, and works in longitudinal slots on the hounds C C. The levers H H pass through the brake-bar and project above and below; the lower ends are connected by a transverse bar which bears against the stop-bar L. When the vehicle is descending a grade the wheels slide forward against the brakes on each end of the brake-bar, while the bar J is forced against the piece L, thus raising the brake-bar and pressing the brakes against the wheels. The rod *b* receives the cross-bar on the inclined portion of the rod when the vehicle is backed, and when the wagon is drawn forward again by the horses the bar falls behind the perpendicular portion of the rod L, in a position to apply the brakes when the vehicle again descends a grade.

Claim.—The combination with a draught-pole E, which is allowed to have an endwise movement between the hounds C C, of the brake-bar G, levers H H, rods K K, transverse bar J, and the stop-rod L, all arranged and operating substantially as and for the purposes set forth.

No. 31,868.—EZRA BUSS, of Yellow Springs, O.—*Improved Clothes-Dryer.*—Patent dated April 2, 1861.—The arms are each provided with a pivot eye to pass over the spindle, upon which is a screw nut which bears against the head of the uppermost arm so as to tighten the arms and prevent their independent rotation.

Claim.—The arrangement of the arms C C, upon a spindle B, which turns freely in a suitable support A, in combination with a tightening and loosening screw *d*, or its equivalent, for placing and securing the arms in any desired relative position, independently of the movement of the spindle in the support, substantially as and for the purpose specified.

No. 31,869.—A. CHRISTIAN, of New York, N. Y.—*Improved Rocking Horse.*—Patent dated April 2, 1861.—The platform is tapered at its upper end to admit of passing between the forelegs of the horse, it being there secured to the body. The hind legs are attached to the lower end of the platform, which rests upon a scroll-spring, the inner ends of which are attached to the axle. On one end of the axle is the slotted plate, which is retained in any desired position by bolts operated by thumb-nuts. By loosening the bolts the platform can be adjusted at any angle, the pawl gearing with the ratchet wheel on the other end of the axle, retaining it until the plate is secured.

Claim.—The platform A, ratchet wheel E, with its pawl *e*, and the slotted plate F, when the same shall be used in combination in the manner and for the purpose set forth and specified.

No. 31,870.—JOHN T. CLEGG, of Philadelphia, Pa., assignor to Himself and HENRY COULTER, of same place.—*Improvement in Lamps.*—Patent dated April 2, 1861.—This invention will be understood on reference to the claim and engraving.

Claim.—First, an open cap, so constructed that one side will impinge upon the flame, while upon the opposite side a space is left between the wick tube of the lamp and the side of the cap, for the purpose of creating a draught, and thus supplying the requisite quantity of oxygen to the flame at the point of combustion, substantially as set forth.

Second, the combination of a sliding regulating tube (with or without flues) with an open cap, substantially in the manner and for the purpose specified.

No. 31,871.—HUMPHREY E. COPELEY, of Waterbury, Conn.—*Improvement in Photographic Medals.*—Patent dated April 2, 1861.—The claim and engraving explain the nature of this invention.

Claim.—A solid metallic ornamented plate or frame produced by dies with one or more cavities upon either face of said plate or frame, and with a raised rim surrounding each of said cavities, but this only when said cavities are filled with pictures, substantially as described.

Also, securing a picture to the face of a medal, metallic button, or other similar article, by means of a projecting rim formed upon the surface of said article by means of dies, which rim surrounds the picture and is pressed down upon the edge thereof, substantially as described.

No. 31,872.—B. F. CRANDALL and J. A. CONOVER, of New York, N. Y.—*Improvement in Children's Carriages.*—Patent dated April 2, 1861.—The object of this invention is to combine by a simple arrangement three different vehicles, for children's use, in one, so that any one of them may be used according to the age of the child, and answers equally well as if made separately. The invention consists in applying to a frame, which is mounted on three wheels, a suspended platform, rear handles, and a suitable body or seat, provided, when necessary, with levers and connecting rods.

Claim.—First, the frame A, mounted on the wheels B B C, as shown, with the suspended platform G, seat or body F, and rear or back handles H attached, all being arranged and used in connexion with pole I or strap E, substantially as and for the purpose set forth.

Second, in combination with the frame A, platform G, and seat or body F, the hand-levers J J, connecting rods K K, and foot-lever D, applied to the caster wheel C, as and for the purpose set forth.

Third, the bending of the front ends *b* of the connecting rods K K, as described, to admit of the wheels B B and hand-levers J J working in.

Fourth, extending the shaft above the traverse bar *b* of the frame, and having any suitable figure or index D connected therewith, above the traverse bar, with strap E connected to the index, substantially as and for the purpose set forth.

No. 31,873.—JAMES A. CRAMER, of Brooklyn, N. Y.—*Improvement in Boxes for Carriage Hubs.*—Patent dated April 2, 1861.—This invention consists in the method of securing the box in the axle, which is accomplished by the use of a conical or wedge-shaped nut on the end of the box, which, when screwed up, operates both to wedge and clamp the box on the hub.

Claim.—The conical or wedge-shaped nut B, Figs. 1 and 2, on the end of the box A, for the double purpose of wedging and clamping the hub on the said box, substantially in the manner and for the purpose described.

No. 31,874.—BENJAMIN CRAWFORD, of Pittsburg, Pa.—*Improved Arrangement of Feed-Water Heating Pipes of Steam Engines.*—Patent dated April 2, 1861.—The feed water in passing through the zigzag pipes is heated to a high degree by the waste heat escaping from the boilers through the flues, after which it receives still additional heat from the furnace below in passing through the induction pipes to the rear end of the boiler, so that the temperature of the feed water, by the time it enters the boilers, may be raised as high, or nearly so, as that contained within the boilers, thus causing a saving of fuel and rendering the boilers free from contraction by being supplied with water at a low temperature.

Claim.—The arrangement in the flues J J of a boiler of the transverse pipes or chambers D D, and series of zigzag pipes E E, in combination with supply pipes A B C, which are arranged to run from the doctor or pump along the top of the boilers, and the induction pipes I I, which are arranged along and to run from the flues J J under the arch or tile of the furnace to the interior of the boiler, substantially as set forth.

No. 31,875.—JONAH CRITES, of Orrville, O.—*Improvement in Horse-Rakes.*—Patent dated April 2, 1861.—Beneath the frame and secured in proper bearings is the shaft F, which has at each end a crank, on which is placed the grooved pulleys G G. An arm extends up from the shaft and is connected by a bar with the lever *e*, so that by pressing down the lever the shaft is partially turned and the pulleys brought in contact with the drums H, and thus by bands and pulleys upon the rake-shaft it is rotated and the hay discharged; at the same time the lever *d*, which, by catching in a recess in the wheel I on the rake-shaft, retains the rake stationary, is freed, it being connected by a bar to the arm L.

Claim.—The arrangement of the crank-axle F provided with the grooved pulleys G G, and with the arm L, the drums H H, upon the drivers, the bands *a a*, the levers *d* and *e*, the connecting bars J and K, with the rake-shaft E, provided with wheel I, the several parts being arranged and constructed so as to operate jointly for the purpose specified.

No. 31,876.—THOMAS B. DE FOREST, of Birmingham, Conn.—*Improvement in Skirts.*—Patent dated April 2, 1861.—The claim and engraving explain the nature of this invention.

Claim.—First, forming an open space or open spaces, to accommodate the feet in walking, substantially as set forth.

Second, making the skirt to open in front or behind, wholly or partially, by continuing the bottom hoop up to the waist-band or other desired point, and connecting thereto the ends of the other hoops, as described.

Third, making the lower portion of the skirt detachable or removable from the rest at or near the termination of the open space, substantially as and for the purposes described.

Fourth, forming the lower hoop or hoops into a spring, by bending up, to operate as and for the purpose described.

No. 31,877.—SAMUEL S. DICE, of Stark county, O.—*Improvement in Cross-cut Sawing Machines.*—Patent dated April 2, 1861.—The end of the saw is provided with a roller to prevent the saw from striking the ground when it has passed through the log.

Claim.—The pulley at end of saw, in combination with the saw in cross-cut sawing machines.

No. 31,878.—A. H. DOWNER, of New York, N. Y.—*Improvement in Hemmer and Finger-Shield for Hand-Sewing.*—Patent dated April 2, 1861.—This device is designed to be used in hand-sewing. The hemmer is attached to the shield in such a manner that it can be changed and a variety of sizes of snails are furnished to form different widths of hems.

Claim.—First, the arrangement of the snails upon the side of the finger next the work instead of on the top, by which it is made to clear other work when the shield is used for other purposes besides that of hemming.

Second, connecting the hem-folder or snail to the shield or piece of metal upon which it is supported upon the finger, in the manner described, so that it may readily be removed or changed, without changing the main plate, as set forth.

No. 31,879.—WILLIAM ELLARD, of Woburn, Mass.—*Improvement in Machines for Finishing Leather.*—Patent dated April 2, 1861.—The glossing tool carrier is jointed to the end of the cross-bar of the T-lever E, which is composed of the pieces *d* and *e*, the rear end of the piece *d* being connected to a cranked wheel; the upper end of the piece *e* is slotted to receive a friction roller, which runs in the guide-rail K, and bears against the cam affixed to the lower side of the arm M. As the wheel is rotated the glossing tool will be forced over the leather, but when the crank-wheel is performing its lower semicircle of revolution the glossing tool will be raised from contact with the leather.

Claim.—The specified arrangement and application of the bars *d e*, or the T-lever E, the cam L, the roller I, and the retainer or rail K, with respect to each other and the glossing tool carrier D, the bed B, and the crank-wheel G, the whole being to operate substantially as specified.

No. 31,880.—CHARLES R. ELY, of Sheldon, Vt.—*Improvement in Process of Reducing Iron Castings and Preparing Cast-Iron Patterns.*—Patent dated April 2, 1861.—This invention is explained by the claim.

Claim.—First, the use of hot dilute sulphuric acid for the purpose of removing wax or other like composition or coating from the surface of any cast-iron pattern when it becomes desirable to cleanse or reduce the same, substantially as described.

Second, the use of hot dilute sulphuric acid for the purpose of removing rust or scale from the surface of cast-iron patterns, substantially as shown.

Third, the use of hot dilute sulphuric acid for the purpose of preparing an improved surface upon cast-iron patterns for the reception of wax or other composition preparatory to their being used to mould from.

No. 31,881.—PERRY G. GARDINER, of New York, N. Y.—*Improvement in Carriage Springs.*—Patent dated April 2, 1861.—This invention is explained by the claim and engraving.

Claim.—First, the construction of a carriage or other spring, substantially as described, by combining with an upper elastic blade of a convex form, outwardly, an ogee-shaped under blade, in the manner and for the purposes set forth.

Second, in combination with a spring made of two blades connected at their ends, as shown and described, making the under blade of such length in relation to the upper as that the two blades shall be prevented from coming in contact at their centres, whatever the superincumbent weight or load may be.

No 31,882.—ROBERT W. GEORGE, of Richmond, Me.—*Improved Washing Machine.*—Patent dated April 2, 1861.—On the inside of tub, and opposite to rotary dasher, are pivoted at their lower ends the vertical arms C C, which arms are connected by a transverse bar. On this bar is placed the frame E, having on the side next to the dasher two longitudinal rollers, one above the other. The dasher rotating on the shaft B consists of two heads in the form of a segment of a circle larger than a semicircle, and a series of slats connecting them at their peripheries. This shape prevents the clothes from being rolled between the dasher and yielding slatted apron passing under the dasher and concentric with it. On each end of the dasher are the circular disks, of greater diameter than the dasher, and against the periphery of which the slats of the apron bear. The yielding partitions are placed between the ends of the dasher and the side of the tub, and the ends of the slats rest against them.

Claim.—An improved washing machine, consisting of a vibratory presser frame D, rotary dasher C, (made with a flat *m*,) yielding slatted apron G, sectoral guards L L, and yielding partitions or side boards M M, combined and arranged substantially in manner and so as to operate as specified.

No. 31,883.—S. P. GILBERT, of Racine, Wis.—*Improvement in Hollow Augers.*—Patent dated April 2, 1861.—The hollow auger, at its further extremity, rests in bearings, and is rotated by a wheel connected to the driving-shaft by a tube. This tube passes through another tube C, which also rests in bearings, and is rotated in the opposite direction. The bit is somewhat larger in its extremity than the case, over the end of which it slips; it has also a central short tube, which fits into the auger tube. The bit D leaves a core, which passes out of the hollow auger tube, and the chips pass out between the tube and the case.

Claim.—The combination with the bit D and hollow auger G of the rotary case C, substantially as and for the purposes shown and described.

No 31,884.—O. W. GOSLEE, of Glastenbury, Conn.—*Improvement in Cultivators.*—Patent dated April 2, 1861.—The object of this invention is to obtain a machine which can be used either as a cultivator or hoe. This is effected by inserting the teeth, which are constructed with dovetail shanks, in mortises in the frame, and retaining them by a key block; they can thus be readily removed and changed from one side to the other, reversing the sides of the right and left teeth in the frame-work, either throwing the earth outward or up to the hill. The adjustable ground wheel on the end of the frame regulates the depth to which the teeth enter the soil.

Claim.—The arrangement of the frame *a f*, arms *i*, handles *b*, braces *c*, plates *g*, clevis *d*. axle *e*, and cultivator teeth 1 2 3, the whole being constructed in the manner and for the purpose described.

No. 31,885.—E. GOULARD, of New York, N. Y.—*Improved Apparatus for Buoying Vessels.*—Patent dated April 2, 1861.—The recesses are closed by an iron cover hinged to standards firmly fixed to the wood-work of the vessel above the recesses. These recesses contain compressible balloons, which are constructed of India-rubber or strong water-proof material, and are of sufficient capacity, when inflated, to contain air enough to float twice the weight of the tonnage measurement of the vessel. Chains are wrapped around the balloons several times, being secured by passing through loops on their outside surface, and these chains, by passing over a bar secured by eye-bolts to the sides of the vessel, support the balloons. The chains pass inside the vessel over rollers and through conduits on either deck to windlasses; by winding the chains all the balloons are compressed simultaneously, and at the same time the covers of the recesses are closed. The balloons are inflated by pipes which are connected with air-pumps in different parts of the vessel.

Claim.—The construction of the vessel with recesses or boxes B at the sides, as and for the purposes shown and described.

Also, the arrangement with the said boxes of the compressible balloons A, air-pump F, air-tubes F, windlass C, chains *e*, and conduits D, in the manner and for the purposes shown and described.

No. 31,886.—JOHN HAYNES, of Pembroke, Me.—*Improvement in Machinery for Operating Fog-Bells.*—Patent dated April 2, 1861.—From a frame on the hull is suspended the swinging frame, which is moved backward and forward by the motion of the waves. A transverse bar in the lower part of this frame passes through a slot in one of the spokes of a wheel, which is hung between its pendant arms. Thus the motion of the frame partially rotates the wheel, and by means of a band passing over a pulley on the bell-shaft, rings the bell.

Claim.—The combination of the pendulum device D E F, wheel H, and bell L, with the hull A, substantially as and for the purposes set forth.

No. 31,887.—FREDERICK HEIDRICK, of Philadelphia, Pa.—*Improvement in Lamps.*—Patent dated April 2, 1861.—This invention consists in providing the wick tube with a chamber around the wick pinion which shall be fluid-tight, for the purpose of preventing the escape of the fluid, and thus avoid the liability to explosion.

Claim.—The employment of a fluid-tight chamber over the wick pinion in combination with the wick tube, substantially in the manner and for the purpose described.

No. 31,888.—R. W. HUNT and M. KENNEDY, of Galesburg, Ill.—*Improvement in Water Elevators.*—Patent dated April 2, 1861.—The valve F, at the bottom of the bucket, is attached to the lifting rope by a rod, so that it is closed by the pull on the rope. The spout is hinged to one side of the well-curb, and is attached by rods to a rod J, extending across the curb and resting in vertical guides on each side, said rod having in it a ring through which the rope passes. As the bucket is elevated a projection on it catches on the ring upon the rod J and elevates the spout, the rod catching in the projection on the plate and sustaining the bucket, while by slightly reversing the motion of the crank the valve is opened. When the bucket is emptied and further elevated, the ends of the rod J lift the drop so that the rod passes over the projection and the bucket descends.

Claim.—The arrangement of the self-opening valve F with the bucket E and lifting rope G, when combined with the rod J, ring *d*, spout I, projections *f*, plates *e*, and drops *g*, as and for the purposes shown and described.

No. 31,889.—S. HUTCHINGS and J. D. LEACH, of Penobscot, Me.—*Improved Washing Machine.*—Patent dated April 2, 1861.—The claim and engraving explain the nature of this invention.

Claim.—The curved connexion between the flat bottom of the washbox and the inner surface of the inclined board *n*, at the forward end of said box, when such a shape is given to the actuating faces of the swinging feet *g g* as will enable them to produce the described compressing and rubbing effect upon the clothing which may be operated upon within said machine, and when the several parts of said machine are arranged in the manner set forth.

No. 31,890.—SAMUEL IDE, of East Shelby, N. Y.—*Improvement in Bee-Hives.*—Patent dated April 2, 1861.—The straw wall is placed around the comb-frame, and notched strips are placed on the inside of the hive, against which the straw bears. The straw absorbs moisture, which the circulation of air through and around the straw carries off; and, owing to its non-conducting qualities, the straw serves to keep the hive warm.

Claim.—Having the hive constructed with an inner wall composed of straw, or other equally porous material, when the said straw or porous wall is separated from the outer case so as to leave an air space, and used in connexion with ventilating apertures, all substantially as shown and described and for the purposes set forth.

No. 31,891.—T. JACOBS and N. J. WILKINSON, of St. Louis, Mo.—*Improvement in Apparatus for Purifying Water.*—Patent dated April 2, 1861.—In the upper part of the boiler a pan is hung with a slight inclination. Upon the pan and directly opposite the feed-pipe is placed the corrugated plate which receives the sediment in the water, the plate being removable at pleasure.

Claim.—Arranging the corrugated plate or collector D, in connexion with the feed-pipe and within the boiler, as described, for the purpose of cleansing the feed water before it mingles with that in the boiler and after it has passed through the purifier, in the manner described.

No. 31,892.—SAMUEL LEEDS, of Philadelphia, Pa.—*Improvement in Furnaces for Heating Buildings.*—Patent dated April 2, 1861.—This invention consists of a peculiar form and construction of the exterior, top, and side plates, in connexion with an arrangement of division plates, heat-radiating air flues, a fresh-air chamber, and a distributing pipe, which communicates with the external air.

Claim.—The top plate A and side plates B B, constructed in the form described, the division plates C D E, the heat-radiating flues K K opening through the top plate A, and com-

municating through the plate C with the fresh-air chamber G, as described, the deflecting plate M constructed with the openings 2 2 3, as described, and the fresh-air distributing pipe M; the said parts being arranged in relation to each other, the chambers F and G, and the flue L, substantially in the manner described and for the purposes specified.

No. 31,893.—J. G. LEFFINGWELL, of Newark, N. J., and G. W. THOMPSON, of New York, N. Y.—*Improvement in Gas-Burners.*—Patent dated April 2, 1861.—This invention consists in the arrangement of a gas-burner which is provided in its interior with a flexible diaphragm, and with a rising and falling valve, so that by the action of the diaphragm and valve the quantity of gas flowing through the burner is regulated, and a steady flame is produced without waste, independent of the pressure with which the gas passes through the pipes.

Claim.—First, a gas-burner A, having in combination a tip *a*, flexible diaphragm C, and valve D, arranged in the manner and for the purposes set forth.

Second, the ring *b*, with its inclined sides and hooked edge, as described, for the purpose of securing the diaphragm.

No. 31,894.—JOSIAH LONG, of Morristown, Ind., assignor to J. G. WOLF, of same place.—*Improved Wagon Brake.*—Patent dated April 2, 1861.—The brakes are operated by means of a connexion with a tongue-rod, to the front end of which is secured a strap passing through an eye in the end of the tongue. As the wagon ascends a hill the horse, in holding back, draws the tongue-rod forward, and, at the same time, the doubletree, being connected by a lever to the sliding rod, is caused to slide backward, thus keeping the traces tightened. When on level ground the doubletree slides forward and relieves the tongue-rod, and, consequently, the brakes. The rear and forward brakes are connected by a screw coupling regulated by a nut on both sides, so that the wagon can be lengthened or shortened without affecting the operation of the brakes. An arrangement is made to shut off the brakes by means of levers, so as to back the wagon when necessary.

Claim.—First, the employment of the screw coupling *e* and screw adjustment *g*, for the purpose of enabling the brakes of the hind and fore wheels to be used either separately or combined, substantially as set forth.

Second, the arrangement of levers *p p*, screw coupling rod *e*, screw adjustment *g*, connecting rods *f f*, lever *i*, doubletree E, and levers *d d d d*, for the purpose set forth and described.

No. 31,895.—DAVID LYMAN, of Middlefield, O.—*Improved Mode of Attaching a Clothes-Wringer to a Tub.*—Patent dated April 2, 1861.—This invention consists in hinging to the frame of a wringing machine, by connecting links or strands of adjustable lengths, a clamping lever or frame, with suitable means of inclining the same, whereby the tub can be grasped and held with the desired force by jaws, which can be readily adjusted to tubs whose sides vary in thickness.

Claim.—The employment, in wringing machines, of adjustable hinges at the point, represented by E F G, between the main frame B and a clamping lever or frame C C, the latter being operated by the screw D or equivalent mechanical device or devices, at or near the top of the machine, all substantially in the manner described and for the purpose set forth.

No. 31,896.—GEORGE H. MAGERSUPPE, of New York, N. Y.—*Improvement in Lanterns.*—Patent dated April 2, 1861.—This lantern is constructed with a glazed front, two sides, and a narrow back piece hinged together, with triangular-shaped top and bottom pieces hinged to the front, and provided, respectively, with a chimney and socket, which admits of the parts being readily folded and carried in the pocket. When in use the lantern is of a triangular shape.

Claim.—The portable lantern described, capable of being readily folded into the shape and size of a pocket-book, in the manner and for the purpose substantially as set forth.

No. 31,897.—GEORGE H. MALLON, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated April 2, 1861.—The needle-plate, which has a vertical reciprocating motion given to it by means of a projection on a rotary cam fitting into a slot in the lower part of the needle stock, has upon it the holder *c*, the top end of which, when the needle plate has reached the limit of its upward movement, holds the cloth between it and the pressure plate *p*, while the feed-lever, which also has a vibratory motion given it by the cam, and is in contact with the cloth, makes its backward motion, thus preventing it from drawing back the cloth. The looper is attached to the end of a shaft, which has at its upper end a crank connected by the horizontal rod u^2, which rod has a reciprocating motion given it by the lever attached to it, and the cam X on the moving shaft of the machine. By this means the looper at each rotation of the cam acquires a rotatory reciprocating motion.

Claim.—Placing the dog C upon the needle stock B for the purpose described, in combination with the pressure plate *p* and feed-lever *l*, substantially as specified.

Also, the looper D, when placed above the cloth table or plate 5, in combination with a vertical needle *b*, piercing the cloth upward from below, with the looper head S, shaft *u*, crank V, rod u^2, lever W, and cam X, for communicating a rotary reciprocating motion to said looper, as specified.

No. 31,898.—EDWARD MAYNARD, of Washington, D. C.—*Improvement in Cartridge-Loaders.*—Patent dated April 2, 1861.—The vent which leads outwardly from the apex of the conical termination of the perforation in the shank portion of the cartridge-loader may be a lateral or a through aperture. If an angular through aperture, it may receive a cutting instrument for removing a portion of the point of the projectile, or it may temporarily receive the shank of a screwdriver. In a longitudinal groove formed in the side of the head portion, which is of a knob shape, is pivoted a screwdriver so arranged as to be closed out of the way when not in use.

Claim.—First, the lateral or through aperture which communicates with the termination of the longitudinal cartridge cavity in said loader, and which may serve the respective purposes set forth.

Second, giving such a shape to the knob-head of the improved cartridge-loader that a screwdriver or some other useful article may be jointed thereto and partially concealed therein, substantially in the manner set forth.

No. 31,899.—J. R. MCDONALD, of Fayette, Mo.—*Improvement in Hemp Brakes.*—Patent dated April 2, 1861.—This invention consists in a device by which the journal boxes of the revolving beater of a hemp brake are kept free from tow or other substances.

Claim.—The arrangement of the cap D and guard C, with the boxes *b* and shaft B, as shown and described, for the purpose set forth.

No. 31,900.—ORLANDO MILLER, of Girard, Pa.—*Improvement in Bee-Hives.*—Patent dated April 2, 1861.—The trap consists of a rectangular box, which is placed on the front of the hive, opposite the entrance. In the front of the box are a series of doors, which are hinged at the top so as to swing inward. The space between the bottom of these doors and the alighting board is just sufficient to allow the working bees to pass freely, the drones entering by swinging the doors and cannot get out again. The trap communicates with the hive by an opening closed by a wire grating, which will only allow the working bees to pass under it.

Claim.—The detachable drone and robber trap, constructed and arranged in the manner and for the purpose substantially as specified.

No. 31,901.—CHARLES G. PAGE, of Washington, D. C., assignor to GEORGE C. ROBERTS, of New York, N. Y.—*Improved Refrigerator.*—Patent dated April 2, 1861.—The circulating flue is placed in one of the sides of the refrigerator, and has its outer wall made very thin and of good conducting material, so that the air which enters the flue at its bottom from the refrigerating chamber is warmed by the atmosphere without, and therefore ascends and passes directly through the flue *x* to the top of the ice-box, which is situated in the top of the refrigerator. The warm air coming in contact with the surface of the ice is cooled, dried, and purified, and descends into the refrigerating chamber, owing to its gravity, through openings in the side of the ice-box, and thus a circulation of air is obtained.

Claim.—The circulating flue *i*, constructed substantially as described, in combination with an ice-box open on its sides, as set forth.

Also, in combination with said flue *i*, the flue *x*, in the cover of the chest, as set forth.

No. 31,902.—ALFRED E. PARKS, of Brooklyn, N. Y.—*Improvement in Electro-Magnetic Telegraph.*—Patent dated April 2, 1861.—By this invention four elements are obtained from which to construct an alphabet. The type consists of insulated bars or wires, arranged in different combinations, in blocks sliding in a groove under and over the ends of eight wires, the four under ones being connected in pairs with the positive and negative poles of the battery. The upper ones are connected—the two outer with the line, the two inner with the ground; thus, when the bars or wires come in contact with the conducting wires, a circuit is established, and dashes or dots will be recorded, respectively, the bars allowing longer contact than the wires. By having these conductors placed in different positions, relatively with each other for each type, so as to form consecutive or alternate contacts with the positive and negative poles, circuits will be established, transmitting to the recording apparatus positive, or negative currents of electricity, respectively, in the order required for each letter.

Claim.—First, the recording of a telegraphic alphabet of dots and dashes by means of two pencils or styles, one of them being operated by positive and one by negative electricity.

Second, the use of an alphabet composed, substantially as described, of dots and dashes recorded at pleasure in either of two positions on the paper.

Third, the type, constructed substantially as described, of several conducting pieces insulated from each other.

Fourth, the use of the port rule, constructed substantially as described, with the wires *p*1 *p*2 *n*1 *n*2 *g*1 *g*2 *l'* and 12 inserted therein.

No. 31,903.—JOHN A. PARLETT and JEREMIAH THOMPSON, of Elmira, N. Y.—*Improvement in Ploughs.*—Patent dated April 2, 1861.—The invention consists in the arrangement of the several parts. The coupling bar being susceptible of contraction and expansion, allows the adjustment of the width of the furrow. The anchorate draw-head is attached to the front end of the beam, and extends on each side six inches, forming the segment of a circle, and

allowing the sweep of the long clevis, which can be set at any point, holes being punched in the draw-head and clevis.

Claim.—The arrangement of mould-board B, landside D, coupling bar C, shoe or sole H, point E, beam A, anchorate drawback F, clevis *d*, and handles G, the whole being constructed in the manner and for the purpose described.

No. 31,904.—ALFRED M. PERKINS, of Springfield, Mass.—*Improvement in Pumps.*—Patent dated April 2, 1861.—The valve-seat consists of a plate of metal having cylindrical grooves in its upper surface, a portion of the bottom of the groove being cut entirely through for the passage of the water. On each side of the valve-chest is a cover, which gives free access to the valves. The edges of the valve-seat are bevelled, and strips of metal bevelled exactly to fit are bolted on to the bed-piece after the valve-seats have been placed thereon, thus holding it firmly, and allowing its removal without moving the cylinder, which is also bolted to the bed-piece.

Claim.—First, the construction of a valve, as described, composed of a cylinder fitting into a corresponding groove in a suitable seat, the operation of opening and closing being performed by the rising of the cylinder out of, and the falling of the same into, the groove, as aforesaid, when constructed and operated substantially as described.

Second, the combination of a movable valve-seat with the valve-chests and covers *b b*, when situated under the cylinder, substantially in the manner set forth.

No. 31,905.—WILLIAM RANDALL, of Uxbridge, Canada.—*Improvement in Excavators.*—Patent dated April 2, 1861.—The cylindrical-formed box is placed between the two driving wheels of the machine and receives the earth from the revolving shovels. These shovels are mounted upon arms connecting two disks placed parallel with the driving wheels, and operated by means of spur wheels which gear into projections upon the driving wheels and disks. These wheels can be moved out of gear by means of levers attached to the shafts. The wheels and disks rotate upon the axle, to which the box and lever are permanently attached, thus allowing the dumping of the earth.

Claim.—The cylinder-formed box *b* and the revolving shovels *c c*, as combined, for the purpose specified.

No. 31,906.—D. W. S. RAWSON, of Galena, Ill.—*Improvement in Varnishing Photographs on Paper.*—Patent dated April 2, 1861.—The picture is varnished with a compound of gum arabic and gelatine dissolved in alcohol and water, which is suffered to dry. A clean, smooth plate, the size of the glass, heated to a degree sufficient to melt beeswax, has a thin film of wax spread over it. The varnished picture is now immersed, in an upright position, in clear water, and the glass placed opposite it, with the waxed face opposite the face of the picture. The two are then brought together, and as soon as every portion of the picture adheres to the glass, both are taken from the water and dried, being placed in a horizontal position, the picture upward. When the picture is dry it is separated from the glass.

Claim.—The employment of wax in the method of varnishing photographic pictures, as described.

No. 31,907.—JOHN H. RIBLE, of Dayton, O.—*Improvement in Mowing Machines.*—Patent dated April 2, 1861.—This invention consists in the arrangement of the journal boxes which support the crank-shaft, in combination with the draught-pole and the brace-bars, which support the cutting mechanism, in such a manner that by raising the cutting bar to a given height the pinion actuating the crank-bar is disconnected from the gear wheels, thereby dispensing with all other fixtures for stopping the motion of the cutters.

Claim.—The arrangement of the eccentric journal boxes in which the ends of the crank-shaft have their bearings, in combination with the draught-pole or tongue of the machine, and with the braces H and I, which support the cutting mechanism, substantially in the manner and for the purposes set forth.

No. 31,908.—BARTON RICKETSON, of New Bedford, Mass.—*Improved Apparatus for Setting up Ships' Rigging.*—Patent dated April 2, 1861.—The block is formed with forks, for the reception of the sheaves on the pin passing through the fork. A circular plate, oscillating on the pin, is inserted between the sheaves, convex bosses on the sides of the plate fitting into corresponding recesses in the inner sides of the sheaves. An eye on the plate, which projects from between the sheaves, forms a becket for the attachment of the lanyard.

Claim.—The employment, in combination with sheave-blocks applied to take the place of dead-eyes in standing rigging, of beckets *e e'*, formed upon plates *d d'*, arranged to oscillate upon the sheave-pin *c*, substantially as and for the purpose specified.

No. 31,909.—ANDREW J. RUSSELL, of New York, N. Y.—*Improved Adhesive Material.*—Patent dated April 2, 1861.—Fine tissue paper, saturated with an adhesive material composed of gum arabic, white glue, and alum, dissolved in water, is dried and then cut into narrow strips. These strips can be used as substitutes for wafers; by moistening with the mouth as much as is desired to use, inserting it between the surface of paper to be joined, and, on pressing them together, tearing off the remainder of the strip.

Claim.—As an improved article of manufacture, the dry adhesive sealing material, made as shown and described.

No. 31,910.—RUFUS S. SANBORN, of Sycamore, Ill.—*Improved Coffee-Steeper.*—Patent dated April 2, 1861.—Within a perforated bell-shaped cup is screwed a tubular handle, which is continued down in a perforated tube to the level of the bottom edge of the cup, or a little below it. In the lower opening of the cup is fitted a perforated movable bottom, having at its centre a tubular projection, which receives the tube and serves as a thumb-piece for handling the bottom. Coffee is placed in the cavity around the tube, and the whole placed in a vessel of boiling water, and afterwards boiling water is poured through the tubular handle.

Claim.—First, the combination of the cup A and perforated tube T, substantially in the manner described.

Second, the combination of the tubular handle R with the cup A and tube T, substantially as set forth.

No. 31,911.—C. FREDERICK SCHMIDT, of Williamsburg, N. Y.—*Improvement in Muzzles for Dogs and Other Animals.*—Patent dated April 2, 1861.—This muzzle is so constructed as not to require to be taken off for the purpose of allowing the animal to eat, and at the same time acts as a preventive against his biting.

Claim.—The described muzzle for dogs or similar animals, constructed in the manner and for the purpose set forth.

No. 31,912.—JOHN C. SCHOOLEY, of Cincinnati, O.—*Improved Bathing Apparatus.*—The tub is designed to fold within the case. The shelf in the case, which is provided with guards and inverted gutter, is used as a seat and water-chute, when the shower-bath is used. The tub has at one end a folding foot, while the foot of the case serves as a support to the other end.

Claim.—The arrangement of tub C, shower-bath H, seat *e f g*, and upright case A, constructed substantially as and for the purposes set forth.

No. 31,913.—JOHN SPERRY and C. W. SHERWOOD, of New York, N. Y.—*Improvement in Machines for Enamelling Picture Frames.*—Patent dated April 2, 1861.—Fitted loosely upon a shaft is a basin or receiver for holding the enamelling substance, and secured within the basin centrally is a hub into which the upper part of the shaft passes. On the top of the hub is placed the frame to be enamelled. The scraper is constructed so as to correspond transversely with the contour of the frame, and is held by the hand upon the frame as the latter rotates. Under the basin is arranged a lamp the flame of which is in contact with the under side of the basin. By means of a treadle, in connexion with a rod and lever, the basin is raised from contact with a transverse pin on the shaft, and the rotation of the basin stopped.

Claim.—First, the employment or use on a vertical rotating shaft C of a basin or enamel-receiver D′, with or without lamp E and the frame I to be enamelled, arranged substantially as and for the purpose specified.

Second, the scraper J, formed of two plates *g h*, connected together by a bolt J, and arranged to operate as and for the purpose set forth.

Third, the lever H, in combination with the pin *e* of shaft C, and the pin *f* of the sliding or adjustable basin or receiver D′, or other suitable clutch, arranged to operate substantially as and for the purpose specified.

No. 31,914.—JOSEPH TIBERI, of St. Louis, Mo.—*Improvement in Fire-Grates.*—Patent dated April 2, 1861.—On each side of the throat of the chimney are placed cleats, upon which the lower end of the damper rests, it being levelled so as to catch in the notches in these cleats. The damper is swung by means of two hooks which pass over pins set in each side of the chimney. The position of the damper regulates the amount of heat which is thrown into the room.

Claim.—The arrangement of the said damper in the throat of the chimney, in the manner described, for the purpose specified.

No. 31,915.—ALFRED R. TURNER, of Malden, Mass.—*Improved Apparatus for Trimming Wicks.*—Patent dated April 2, 1861.—This invention is explained by the claim and engraving.

Claim.—The organized apparatus described, for trimming the wicks of lamps, the same consisting substantially of the knife *g*, attached to a travelling carriage, which is made to move back and forth in a horizontal plane, while the wick is firmly held by any suitable holding device during the cutting operation, as set forth.

No. 31,916.—LOUIS DOMINIQUE VALETTON, of New York, N. Y.—*Improvement in Machines for Making Fringe.*—Patent dated April 2, 1861.—The feeding-in and folding the gimpure so as to form strands is effected by means of a forked carrier, fitted in bearings or slides in the frame, so as to cause it to reciprocate in a right line, and its upper prong is pierced by an eye through which the gimpure is threaded. Hung in suitable bearings is a spindle having a hook *g* at one end, so arranged as to have three distinct motions, viz: rotary around

its axis, oscillating horizontally, and vibratory, in a vertical plane. The spools are hung in a frame so supported on a pin as to be capable of revolving, for the purpose of twisting the wires around the strands, simultaneously with the twisting of the strands. At the side of a vibrating frame-work within the main frame are attached two uprights, supported by projections on the main frame, and carrying two horizontal rods *m n*, for the purpose of steadying the wires and spools, and preventing them from turning.

Claim.—First, the forked reciprocating carrier B, for feeding the gimpure to the hook *g*, at the proper time and in the required quantity, substantially as described.

Second, the hooked spindle G, having a rotating motion for twisting the fringe, a vibrating movement to compensate for the shortening of the strand, and a reciprocating motion for discharging the strand and receiving another, substantially as specified.

Third, in machines for making fringe, the employment of the intermittently rotating spool-frame O, for twisting the wire around the strand, substantially as set forth.

Fourth, the employment of the rods *m m*, or equivalent device, having a vibrating motion, in combination with the intermittently rotating spool-frame O, substantially as and for the purposes set forth.

Fifth, the combination of the reciprocating carrier B, the rotating and reciprocating hook *g*, and the revolving spool-frame O, or their equivalents, operating together substantially in the manner and for the purpose set forth.

No. 31,917.—WM. F. VEBER, of Bowling Green, O.—*Improvement in Cultivators.*—Patent dated April 2, 1861.—The frame consists of two curved side-pieces, which are connected together at their front ends by a bolt, and attached to the cross-beams *c d*. These cross-beams are placed together in pairs, a narrow space being left between for the insertion of the shanks or standards of the shares, the standards being slotted for the reception of keys, which hold them firmly. By this means the shares can be easily adjusted to any desired position. The handles are connected together by a cross-bar, and attached to the frame by uprights. The shares are connected by rods to the front part of the frame.

Claim.—The arrangement of frame A, handles B B, slotted standard C, shares C′, wedges *i*, rods D D D *k*, and slotted cross-beams *c d g*, the whole being constructed in the manner and for the purposes shown and explained.

No. 31,918.—WILLIAM S. WATSON, of Madison, Ind.—*Improvement in Brick Machines.*—Patent dated April 2, 1861.—A gear-wheel on the driving shaft gears with a spur-wheel, on whose shaft is placed a cam, which operates a sliding yoke, to which are attached intermittently reciprocating press-boxes, which are forced against the stationary block. On the shaft are placed eccentrics, which, while the pressing-box remains in a stationary position, after having been forced against the stationary block by means of connecting rods and sliding yoke, force in the plungers, and further compress the brick. The tables or lifters are placed below the press-box, and operate to raise the brick out of the mould after it has been pressed, while at the same time they move backward and forward with the press-box.

Claim.—The combination of a pressing-block, intermittently reciprocating press-box, formed with one or more pressing chambers, independently reciprocating plunger or plungers, and table or lifter, or tables or lifters, having at intervals not only a raising and lowering action across or through the press-box, but also an intermittently reciprocating motion in concert with the press-box, substantially as and for the purpose or purposes set forth.

No. 31,919.—H. S. WHITE, of Newport, R. I.—*Improvement in Newspaper Files.*—Patent dated April 2, 1861.—On the centre of the strips one or two knobs are placed. If one cord is used, it is attached to the side of one of the strips, brought through the slots around the centre knobs, through the slots at the other end, and retained by passing the cord around the ends and through the slot again. If two cords are used, one cord is attached to the centre of the strip, and secures it in the same way, the other cord securing the other end.

Claim.—A newspaper file composed of two strips, one of which is furnished with points or pins that pass into the holes or recesses in the other, and having slots formed in their ends, around and through which a cord or cords are wound and held by friction, for holding the slats to each other and to the paper between them, as set forth.

Also, fastening the slats together at their centres by means of the cord which fastens one or both of the ends of the file, as set forth and shown.

No. 31,920.—SETH H. WHITMORE, of Cincinnati, O.—*Improvement in Steam Engines.*—Patent dated April 2, 1861.—The two valves which are placed at the opposite end of the steam cylinder are connected together by a rod, which is operated by a link receiving its motion in the ordinary manner. A pin upon the rod passes through a slot in the link, so that by moving the link up or down upon the pin the leverage is shortened or lengthened, and the steam cut off earlier or later in the stroke.

Claim.—First, the combination of two hollow-throated oscillating valves with each other, when operated by a link motion, substantially as described.

Second, the application of a governor to a link, when used in combination with hollow-throated oscillating valves, for the purpose of effecting a variable cut-off, substantially as described.

Third, the V-shaped opening in the valve and valve-seat of a hollow-throated oscillating valve, for the purpose of admitting steam before the valve is opened throughout its entire length, substantially as described.

No. 31,921.—JOHN R. WHITTEMORE, of Chicopee Falls, Mass.—*Improved Vegetable-Cutter.*—Patent dated April 2, 1861.—The thickness of the cutters in the direction of the length of the shaft is less than that of the hub to which they are attached. These hubs are placed side by side upon a shaft, a projection upon one hub fitting into a recess in the next, but are so adjusted that the parts or edges of the cutters are not in the same line. To the shaft is attached a crank and balance-wheel. The bed-piece is on one side of the hopper, and has over it a series of knives projecting from it, which fit between the cutters on the shaft, the points of the cutters nearly coming in contact with the bed-piece.

Claim.—The combination of the rotary cutters *f*, and bed-piece D, and the knives *k*, substantially as and for the purpose specified.

No. 31,922.—JOSEPH G. WHITTIER, of Attica, Ind.—*Improved Boot-Crimp.*—Patent dated April 2, 1861.—The nut being set in such a position as to compress the jaws with the requisite force, a piece of leather to constitute a boot front is placed around the form F, and the levers E being drawn forward and downward by means of the connecting bar E′, the leather is forced downward between the jaws, and thereby pressed into proper shape upon the form F. A slight pressure upon the end of the lever *o* throws up the toggles, which form a rigid bearing between the plate H′ and the head *k* of the rod K, thereby instantly releasing the jaws. The frame can then be elevated, and the confining knee Q introduced, to which the leather is attached. The frame is again forced down, and the leather tightly stretched around the form by a crank R.

Claim.—First, the construction of the crimping jaws with rigid backs, flexible faces, and interposed springs, substantially as and for the purposes set forth.

Second, the combination of the rod K, set nut L, and toggle movement M N O, for compressing the jaws together with any desired force and readily releasing them, as explained.

No. 31,923.—MARTIN WILCOX, of Middlebury, O.—*Improved Steam Pump.*—Patent dated April 2, 1861.—Steam is admitted into the receiver, which is filled with water through the pipe H, the latter being provided with a governor valve, connected by a rod to a valve, for regulating the pressure of the steam. When the float F in the receiving vessel A is forced down upon the button R′ upon the rod, it closes the steam-gate and opens the pipe G, which connects with the condenser, the valve D of the discharge-pipe closing at the same time. The water standing higher in B than in A, it seeks a level by passing down B and up A, transferring steam from A into C, when the steam is immediately condensed. The water now enters the pipe P until it raises the float against the upper button, thus opening H and closing G. The water is forced out through the valve D, together with the uncondensed steam.

Claim.—The arrangement of the chamber A, float F, pipe N, and valve E, in combination with the valves M and J, with the pipes H′, constructed and operating in the manner and for the purpose substantially as described.

Also, the chamber T, with the partitions O O and valve I, in combination with the pipes B B′, valve D, condenser C, and pipe G, constructed in the manner and for the purpose substantially as set forth.

No. 31,924.—STEPHEN WILCOX, jr., of Westerly, R. I.—*Improvement in Hot-Air Engines.*—Patent dated April 2, 1861.—This invention consists in arranging the working and changing pistons so that the former works within the latter, and both within a single cylinder, for the purpose of obtaining the advantages of compactness, &c., and of separate working and changing cylinders and pistons and increased heating surface. Around the central portion of the plunger is a tight case, one end of the plunger serving as the working piston of one single-acting hot-air engine, and the other end as the working piston of another and similar engine, combined with which is a means of connecting such double-working piston with the exterior parts of the engine, by which the extent of packed surface dividing the working air from the external air, as well as leakage from the working chamber, is reduced.

Claim.—First, the employment in a hot-air or gas engine of a plunger C, in combination with an annular piston B, arranged and operating within the cylinder A, substantially as and for the purposes set forth.

Second, the employment of the tight case D around a plunger C, serving as the working piston of the two single-acting hot-air engines, in combination with the employment of one or more lugs *c* and piston-rods G, arranged substantially as represented, for the purpose of diminishing the liability of leakage of air from the interior of the engine.

No. 31,925.—C. M. WILKINS, of West Andover, O.—*Improved Cheese-Vat Operator.*—Patent dated April 2, 1861.—The vat is supported upon rockers, hinged to the platform by pins, which pass loosely through flanges on the rockers. The lever is secured to the platform by a pivot joint, allowing it to be drawn backward or forward, in a right line with the end of the vats. A clutch on the end of the vat reaching over the upper end of the lever

serves as a slide through which the lever moves to the right or left. By moving the lever the vat can be easily tipped for wheying off.

Claim.—The hinged rockers J J, in combination with the hinged lever L, operating as and for the purpose specified.

No. 31,926.—TURNER WILLIAMS, of Providence, R. I.—*Improvement in Means for Avoiding Dead Centres in Cranks.*—Patent dated April 2, 1861.—This invention consists in arranging a spring with a stiff rod extending at right angles from its loose end, in such relative position with respect to a crank to which it is directly connected that the said device shall operate alternately in opposite directions with the revolution of the crank to carry it past both dead centres without stopping.

Claim.—The use of a spring, combined with a rod for directing its force, or the equivalent therefor, arranged relatively with the crank, substantially as described, to effect the purpose set forth.

No. 31,927.—LEVI DODGE, of Cohoes, N. Y., assignor to Himself and DAVID BLAKE, of same place.—*Improved Shear for the Manufacture of Axes.*—Patent dated April 2, 1861.—From a bar of steel, whose width is as great as the breadth of the axe-poll or the length of the steel piece to be cut by means of the shears and dies, a steel piece is cut off and the scarf formed at the same operation. The piece being cut from the end of the bar, so that the grain of the steel shall be at right angles to the cutting type, for the purpose of securing a better edge and stronger weld.

Claim.—The employment of the circular shears and dies for cutting said steels and swadging their scarfs ready for welding, in the manner set forth.

No. 31,928.—T. J. FREEMAN, of Heyworth, Ill., assignor to himself and E. T. FREEMAN, of same place.—*Improved Machine for Cutting Standing Corn-Stalks.*—Patent dated April 2, 1861.—This invention consists of a roller placed in a suitable frame and used in connexion with a reciprocating yielding knife, a frame for bending over the corn, and a reciprocating toothed plunger for the purpose of cutting down standing stalks to be ploughed under the soil. A toothed plunger bar serves as an indicator to point out rocks, so that the driver can stop the machine or disconnect the traverse pin from the pitman, which is effected by means of a lever depressing the outer end of a spring. The knife is allowed a yielding motion by means of springs, when coming in contact with stones or other obstructions.

Claim.—First, the roller B, in connexion with the reciprocating knife J, arranged for joint operation as and for the purpose set forth

Second, the combination of the roller B and reciprocating knife J, with the toothed plunger bar Q and frame K, all being placed within a frame A, as and for the purpose specified.

Third, the peculiar arrangement of the bars G H, with the plate *j* and pin *k*, essentially as shown, whereby the pitman F may be readily connected to the traverse piece I, and readily disconnected therefrom, for the purpose of rendering the knife operative or inoperative as required.

No. 31,929.—L. & S. B. HOLDEN, of Woburn, Mass., assignors to Themselves and J. C. SEELYE, of East Cambridge, Mass.—*Improvement in the Manufacture of Boots and Shoes.*—Patent dated April 2, 1861.—This invention consists in a method of preparing the sole and upper for sewing, whereby the seam is brought entirely on the outside of the sewing operation, but if the shoe be turned the seam will be brought entirely on the inside thereof, the special object of this mode being to facilitate sewing together the parts by a sewing machine.

Claim.—So preparing the sole and upper for sewing that the parts to be sewed together are brought to the condition substantially as illustrated by Figs. 1, 2, and 6, and described, that is to say, projecting from the central or principal portion of the sole at right angles, or nearly so, to the face thereof, in such manner as to bring both faces of the seam on the outside of the work while the sewing is being performed.

No. 31,930.—HOSEA H. HUNTLY, of Cincinnati, O., assignor to CHAMBERLAIN & Co. and WILLIAM CAVEN, of same place.—*Improvement in Cooking-Stoves.*—Patent dated April 2, 1861.—Placed midway between the two stove sides and extending from the front of the stove to the rear flue is a long narrow fire-box suspended centrally and longitudinally in the top of a single oven. At the sides of the stove cold-air passages enter, and, after traversing the middle and hottest part of the oven top and fire-box, enter the lower portion of the box at its middle, so as to compel all the feed air to traverse the mass of fuel before escaping to the flues.

Claim.—First, the described central longitudinal fire-box C, provided with cool-air passages F F which enter the lower part of said box from opposite sides at or about its mid length, in the manner and for the objects stated.

Second, a cook-stove with the following elements: an oven A, extending from side to side of the stove, a long, narrow, longitudinal fire-box C, suspended centrally in the top of said oven, cool-air passages F F', which enter at or near the mid width of the stove sides, pass over the oven at its middle portion and enter the lower portion of the fire-box at or about its

said length, and the four corner diving-flues; the whole being arranged as and for the purposes set forth.

No. 31,931.—H. KIPLING, of New York, N. Y., assignor to J. B. BEHRMANN, of same place.—*Improvement in Bracelets.*—Patent dated April 2, 1861.—This bracelet is constructed of a coiled spring-wire, and covered with a suitable ornamental covering. A spring-wire passes through the tube, and lips or plates are secured on the ends by which it may be clasped.

Claim.—As an improved article of manufacture, a bracelet composed of a single piece of wire arranged spirally, with a central strengthening wire C, covering A, and tips D, all as shown and described.

No. 31,932.—ROBERT J. MANN, of Brooklyn, N. Y., assignor to LEWIS A. OSBORN, of Newark, N. J., and ISAAC J. VINCENT, of Brooklyn, N. Y.—*Improved Method of Manufacturing Skeleton Skirts.*—Patent dated April 2, 1861.—This invention consists in the use of a former of the shape of the hoop-skirt to be manufactured, provided with a waistband block and a number of ribs corresponding to the number of tapes to be used, to which the hoops are attached until the tapes are fastened to them.

Claim.—The method of forming hoop-skirts by applying the hoops and tapes, or their equivalents, to each other while they are supported in the relative positions which they are to occupy in the finished skirt, substantially as set forth.

No. 31,933.—WILLIAM MCCORD, of Sing Sing, N. Y., assignor to Himself, CHARLES F. COX, of Sing Sing, N. Y., and ROBERT WOODWARD, of New Egypt, N. J.—*Improvement in Fire-arms.*—Patent dated April 2, 1861.—The nature of this invention consists in arranging between the rear open ends of two or more gun barrels firmly secured in a suitable frame or stock and breech-post or standard immediately in the rear, a perforated reciprocating block or plate, and providing in connexion therewith detachable cartridge chambers, a series of peculiar formed cams, sliding plates with rammers attached, percussion hammers, and other parts; the whole being arranged and made to operate by the simple act of turning a crank with such concert of action as to enable one set of openings in the reciprocating plate to be charged with said detachable cartridge chambers having ball cartridges within them, and the cartridges in the similar cartridge chambers in the other set to be discharged through the barrels at every reciprocal throw of the said plate, and *vice versa*, and thereby cause a rapid and uninterrupted firing of balls from both barrels proportionate with the speed with which the crank-shaft is turned.

Claim.—First, the combination and arrangement of the cams H H′, on the upright shaft I, parallel bars *b*, on the lower part of the reciprocating block or plate F, sliding plates M N, having spaces formed in their enlarged ends, and rammers P′ attached, and inclined cartridge chamber slots or channels Q, formed in the transverse block D; the said cams H H′ giving the necessary reciprocating movements to the said block or plate F, and sliding plates or rammers, at the proper intervals of time in relation to each other, substantially in the manner and for the purpose fully set forth.

Second, forming the lower part of the hopper R, as represented and described, with a knife-edged partition between the entrances to the cartridge slots or channels Q, for the purpose of preventing the detachable cartridge chambers F2 choking up the entrances to said slots or channels as they descend into the same, as set forth.

Third, the peculiar tangential and eccentric form of the portions of the cams T, immediately next to the more abrupt portions from which the ends of the spring hammers S are tripped, in combination with said spring hammers operating in the manner and for the purpose described.

No. 31,934.—JAMES NEVISON, of Morgan, O., assignor to Himself and A. D. WOOD, of Buffalo, N. Y.—*Improvement in Stave Machines.*—Patent dated April 2, 1861.—As the weight of a ratchet and pawl lever is drawn up by the forward movement of the carriage the lever is carried to a certain height and retained by the notched lever O. On the return of the carriage the curved lever *p*, attached to the carriage, acts against the upper part of the lever O, and disengages it from lever K, which, being brought down by the weight, causes the pawl and ratchet to turn the shaft and also the feed-roller, carrying with it the log to the saws.

Claim.—The levers *o* and *p*, and spring, in combination with the cords *u* and *n* connected with the saw-frame for the purpose of operating the feed-works, as described.

No. 31,935.—HORTON B. PECK, of Wolcott, N. Y., assignor to LYMAN F. SNEDAKER, of Clyde, N. Y.—*Improved Method of Arranging Fly-wheels.*—Patent dated April 2, 1861.—The object of this invention is to make use of a fly-wheel run at a high rate of speed greater than that of any part of the working train or machinery to which it is applied, in combination with an adjustable rolling brake for varying the motion of the machinery as occasion may require. The high speed is produced by a train of more or less gearing out of the working train, but receiving its motion therefrom. It is designed to act as a regulator in the employment of clock-work or other mechanical power.

Claim.—The employment of a comparatively light fly-wheel F, made to produce the required effect by running it at a higher rate of speed than that of any part of the working

train or machinery, in combination with an adjustable rolling pressure brake H J K L, or its equivalent, for varying the machinery, substantially as and for the purpose specified.

No. 31,936.—GEORGE N. SEIDLER, of Hartford, Conn., assignor to RAWSON READ, of same place.—*Improved Portable Folding Bed.*—Patent dated April 2, 1861.—The frame of the bed is hinged at its centre so as to be partially raised or folded together, and the portion between the centre and head is also hinged, each hinged part being adjusted to the desired position by means of hinged supports catching in racks at their lower ends. The springs are padded at their bearing points to prevent creaking.

Claim.—The combination of the box or frame-work *a* and *f*, racks *m* and *o*, supports *h h'*, having the padded springs *x c*, arranged substantially in the manner and for the purpose described.

No. 31,937.—GUSTAVUS ZCHECH and JACOB KIEFER, of Indianapolis, Ind.—*Improvement in Shingle Machines.*—Patent dated April 2, 1861.—Fastened to the side of the machine and under the breast plate is a vibrator formed of two plates with a space between them, within which space is a spring pressing on a lug which works with and on the pin *t t*, the latter connecting the lug with the triangular guide *v*.

Claim.—The guide *v*, working on the pin *t t*, when used for the purpose set forth.

No. 31,938.—JOSEPH C. TIFFANY, of New York, N. Y., and GARET G. HEERMANCE, of Hudson, N. Y.—*Improvement in the Means of Promoting Combustion in the Furnaces of Steam-Boilers.*—Patent dated April 2, 1861.—The heated chamber is supplied with air from the ash-box or blower, and a pipe passes into it from the boiler, said pipe being provided with perforated tubes, by which means the steam is admitted into the chamber, and from thence through openings the gases are admitted to the fire so as to combine with the unconsumed gases evolved from the coal and thus facilitate their combustion. The lugs on the outside serve to hold the coating of clay, and inner projections assist in heating the vapors before passing into the fire.

Claim.—The heated chamber *f*, through which air passes, combined with the pipe *e* within said chamber, supplying a regulated amount of steam or vapor, which combines with the air in said heated chamber and passes off to the fire through a suitable opening or openings, as and for the purposes specified.

Also, the construction of the chamber *f*, represented in Fig. 3, with the lugs and spikes, for the purposes and as set forth.

No. 31,939.—E. H. BAILEY, of Philadelphia, Pa.—*Improved Key Fastener.*—Patent dated April 9, 1861.—This invention consists in temporarily connecting the handle of the key to the door knob by means of bent wires provided with a screw and nut, by means of which they can be adapted to keys and locks of different sizes, for the purpose of preventing the door from being unlocked on the outside.

Claim.—Connecting the handle to the key of the lock by the pieces E F and G, or their equivalents, arranged for attachment to and detachment from the handle and key of a lock, substantially as set forth for the purpose specified.

No. 31,940.—CALVIN AUBORN, of Watertown, N. Y.—*Improvement in Cheese-Presses.*—Patent dated April 9, 1861.—To the short arm of the operating lever is attached a pawl, that engages with a ratchet segment upon a shaft hung in suitable bearings and concentric to the toothed periphery of the segment. On the bottom of the shaft to which the toothed segment is attached and concentric to the shaft is a cam, so shaped and disposed over the mounted roller of the platen as that, on giving motion to the toothed segment, the cam gradually acts on the roller to depress the platen.

Claim.—First, the toothed operating segment or sector and platen-pressing cam, combined to form but a single device, and the one being concentric and the other eccentric to or with the shaft which carries them, and otherwise peculiarly constructed for operation by a lever and pawl, to communicate pressing force to the platen, essentially as shown and described.

Second, the combination of the peculiarly constructed and combined toothed operating segment and platen-driving cam with the rollers which serve to guide the platen at its sides or ends and the roller interposed between the cam and platen and against which the cam is made to bear, all for operation together, as set forth.

No. 31,941.—D. N. ALLARD, of McConnellsville, O.—*Improved Horseshoe Machine.*—Patent dated April 9, 1861.—This invention consists in so combining two die-wheels, the axes of which are at right angles to each other, and gearing and operating them together, as that each and every revolution of the die-wheels shall form a horseshoe and tip it up and loosen it from the die, so as to be readily removed and allow another blank to be introduced.

Claim.—The combination of a vertical and a horizontal wheel working together and furnished with dies, for the purpose of swadging out a horseshoe, substantially in the manner set forth.

Also, in combination with a vertical and horizontal die-wheel the tipping bar K, for the purpose described.

No. 31,942.—RANSOM BARTLE, of Independence, Iowa.—*Improvement in Water Elevators.*—Patent dated April 9, 1861.—The drum consists of two flanges of equal diameter and a hub provided with a thin annular flange, and is allowed to turn loosely on its shaft and to have an end-play between a fixed collar and a ratchet-wheel. Across the hub portion of the drum passes the brake-lever, by means of which the drum may be thrown into or out of connexion with the ratchet-wheel and the bucket slowly lowered. The bucket is hung by a flat metal strap instead of a chain, for convenience of winding; one end of this strap is attached to a strap secured to the drum between the two flanges, and made of India-rubber or other suitable material, to prevent the metal strap from breaking should the bucket fall suddenly into the well. Two metal strips connect the bail of the bucket to the lower end of the metal strap.

Claim.—The arrangement of the sliding treble-flanged drum, constructed as shown, with the brake-lever G, shaft D, straps *h l*, separated strips N N, and bucket K, all in the manner and for the purposes shown and described.

No. 31,943.—J. B. BAUSMAN, of Rochester, Pa.—*Improved Car-Ventilator.*—Patent dated April 9, 1861.—In the upper part of either end of and extending across the car is placed a trunk or box having near its orifice a depression which forms a water-chamber, in which are mounted a series of fans, so arranged as to be set in motion by the resistance of the air as the car moves along. Above the fans is a water-chamber, the bottom of which is perforated to allow the water to drop on the fans. In the rear of the trunk is a register for admitting air to the car, the air being divested of dust in passing through the spray caused by the operation of the fans.

Claim.—The arrangement of the self-acting fans D with the tanks C E and curved trunk B, in the manner and for the purposes shown and described.

No. 31,944.—A. L. BAYLEY, of Amesbury, Mass.—*Improvement in Shaping and Embossing Hats and Caps.*—Patent dated April 9, 1861.—The object in using sand for shaping or embossing hats is to transmit the pressure to all parts of the interior of the hat in such a manner as to cause every part of its exterior to be forced out against the opposite interior surface of the mould.

Claim.—The shaping or embossing of hats or caps by placing them in a suitable die A, filling them with sand, or other granular or pulverous material, and subjecting such material to pressure, substantially as specified.

No. 31,945.—JAMES A. BAZIN, of Canton, Mass.—*Improvement in Bobbins for Spinning Machines.*—Patent dated April 9, 1861.—The bobbin is so constructed that the central core or axis can be removed when the bobbin is filled, and suitable casings or clamps applied to the periphery of the bobbin-heads, by means of which casing, clamps or binders, the coil of yarn, thread, or strand is retained in the same form as when wound upon the bobbin, and can be drawn off from the centre of the coil, instead of being taken from the outside in the usual manner.

Claim.—First, the improved bobbin, constructed substantially in the manner and for the purposes described.

Second, the method of holding the coils of yarn or strands, so that they can be safely removed from the spindles on which they are wound and applied to the creel or other part of the machine in which they are to be used, by means of connecting the movable heads of the bobbin with clamps, or their equivalents, substantially as and for the purpose set forth.

Third, combining the movable heads with the core, or its equivalent, in the manner and for the purposes described.

No. 31,946.—HENRY BEAGLE, jr., of Philadelphia, Pa.—*Improved Safety-Hook for Harness.*—Patent dated April 9, 1861.—This invention consists in a hook formed of two parts, connected by a pivot, and provided with curved ends, which, when the hook is closed, overlap each other and receive a ring or band, which serves as a fastening to prevent the casual separation of the two parts of the hook.

Claim.—The arms or bars A A, connected together by a pivot *a*, and provided with curved ends *b*, in connexion with a ring B, arranged to fit within the curved ends *b*, and form a lock for the arms or bars, substantially as and for the purpose set forth.

No. 31,947.—JOSEPH BELL, of Belleville, Ill.—*Improvement in Bolting Chests.*—Patent dated April 9, 1861.—This invention consists in placing ventilators in the roof of the chest and also on each side of the upper part of the lower bolting-chamber, by which means, the inventor says, coolers may be dispensed with and the meal bolted immediately after leaving the stones.

Claim.—The interior construction of the chest, shown and described with the ventilators, arranged substantially as described for the purpose specified.

No. 31,948.—SAMUEL BOORN, of Lowell, Mass.—*Improvement in Pickers for Looms.*—Patent dated April 9, 1861.—The picker is constructed of raw hide, both body and bushing, and with a cushion made of horn, the socket for the reception of the cushion being of taper

form, and having its supporting laps brought in close contact at and in rear of the rear end of the cushion, and then confined together by one or more rivets extended through the laps.

Claim.—The improved manufacture of raw-hide picker as made with a tapering cushion, a backing-plate *a*, and the case *b*, arranged and applied together, substantially as specified.

No. 31,949.—EDWARD BROWN, of Waterbury, Conn., and WILLIAM H. VAN GIESON, of Paterson, N. J.—*Improved Machine for making Butt-Hinges.*—Patent dated April 9, 1861.—This invention does not admit of a brief description.

Claim.—First, the combination of the swages 21, yielding supporting plate 20, and fixed stop 24, substantially as described for the purpose set forth.

Second, the combination of the fixed stop 33, dies 30, and sliding support 29, substantially as and for the purpose set forth.

Third, the combination with the files 45, operating substantially as described, of the overhanging stop 51 and support 44, substantially as and for the purpose set forth.

Fourth, the combination of the vibrating support 44, set-screw 47, and springs 50, arranged substantially as described for the purpose set forth.

Fifth, the combination with the swages and files described for turning and finishing the joint of the hinge of the fingers 8, 9, and 10, substantially as described for the purpose set forth.

Sixth, the combination in the manner described of the clutch for disconnecting the power from the machine, with the fingers for moving the blanks forward into position, the fingers being so connected to the clutch-lever as to cause an undue strain upon the fingers 8, 9, and 10, or any one of them, to release the clutch-lever 70, and thus disconnect the driving power, substantially as described and shown.

Seventh, the guides 75, so constructed and arranged in connexion with the slides 76, 77 as to turn the parts of the hinge over and deliver them upon the slides 76, 77, substantially as and for the purpose set forth.

Eighth, the construction of the slides 76, 77, 79, 80, and their arrangement, in connexion with the apparatus for driving the wire by which the parts of the hinge are brought into and held in the proper position to receive the wire which forms the axis of the hinge, substantially as and for the purpose set forth.

Ninth, the combination with the said slides 76, 77, 79, 80 of the guide 84, substantially as and for the purpose set forth.

Tenth, the combination with the driving-clamp 93 of the supporting slides 104, 105, and springs 106, substantially as and for the purpose set forth.

Eleventh, the combination of the supporting slides 76, 77, 79, 80, or other support, for the hinge during the operation of driving the wire, and with the clamp 93, or other device for driving the wire, to form the axis of the hinge of the stop 114, said stop being connected with the disengaging apparatus in such a manner that an undue pressure in driving the wire will disconnect the driving power, substantially as and for the purpose set forth.

Twelfth, the combination with each other and with a machine for making hinges of the pliers or cutting nippers 107 and chisel 108, operated and operating substantially as described for the purpose set forth.

No. 31,950.—GEORGE W. BRUSH, of Brooklyn, N. Y.—*Improvement in Floating Derricks.*—Patent dated April 9, 1861.—The float or vessel, as represented, consists of three sections, which may be built separately, or an ordinary vessel may be cut transversely into three parts or sections and provided with bulkheads at the cut ends. The end sections are connected to the middle one by means of two timbers passing each side of upright posts extending from the keelson through the deck. The derrick is secured to the middle section.

Claim.—The float or vessel A B C which carries the derrick or hoisting or lifting apparatus, constructed of two or more movable sections which can be brought into line with each other to form a navigable vessel, or to a position parallel with or at a suitable angle with each other to make their bow and stern ends counterbalance the derrick or hoisting apparatus, substantially as specified.

No. 31,951.—A. A. BURLINGAME, of New York, N. Y.—*Improvement in Apparatus for Making Extracts under Pressure.*—Patent dated April 9, 1861.—The globe communicates with the steam space and with the water space of a steam boiler by a series of pipes, and is combined with a vessel intended to receive the substance to be boiled or extracted, and with a receiver, in such a manner that the heated liquid from the steam boiler rises to the globe, from which it can be passed through the substance in the extracting vessel either from above or from below, acting on said substance under a hydrostatic pressure determined by the height of the globe above the extracting vessel, and that the extract or infusion thus obtained, when passed into the receiver, is kept in a heated state by the action of the steam from the boiler, until it is drawn off by suitable faucets.

Claim.—The arrangement of the globe A, pipes C D E F, and steam boiler B, in combination with the extracting vessel G, pipes *f g*, and receiver H, constructed and operating substantially in the manner and for the purpose specified.

No. 31,952.—CHARLES W. CAHOON, of Portland, Me.—*Improvement in Seeding Machines.*—Patent dated April 9, 1861.—The hopper is placed over the shaft of the seed distributor, and is formed of canvas. Its lower end is connected with a funnel-shaped conductor, which terminates in a spout that delivers the seed into the eye of a centrifugal discharger. The bearings of the shaft are rigidly connected with and supported by a breastplate curved to fit the body of the operator, where it is secured by means of straps or strings.

Claim.—The combination of a hopper, centrifugal seed-discharger, and their appurtenances, with a breastplate, substantially as set forth.

Also, the combination of a centrifugal seed-discharger with a bag-hopper by means of a conductor that receives the seed from the bag and conducts it to the seed-discharger, substantially as set forth.

No. 31,953.—CAROLINE H. CARNES, of New York, N. Y.—*Improvement in Reels.*—Patent dated April 9, 1861.—Each arm of the reel is formed of two pairs of levers, and each side of the face or periphery is also formed of two pairs of levers, by which double arrangement the reel may be expanded or contracted by a short movement of the collar, and consequently a short rod or shaft only is required.

Claim.—A reel composed of double pivoted levers E E, collars *d e*, slide D, and shaft A, and otherwise made as shown and described.

No. 31,954.—GEORGE E. CHENOWETH, of Baltimore, Md.—*Improvement in Raking Attachments to Harresters.*—Patent dated April 9, 1861.—The rake head is connected to the endless belt or chain by a slotted connecting rod, which embraces the cylindrical portion of the head by a strap, and receives the wrist-pin in a slot at its other end. The wrist-pin is firmly attached to the endless belt, and projects from it towards the rear of the platform. The depositing apron is provided with projections turned so as to arrest and hold the grain until the gavel is ready to be deposited on the ground, and is let into the platform so that its upper surface is level with the same. Attached to the bottom of the apron is an irregular cam, which is operated by the connecting rod, and raises the apron at the end of each traverse of the rake so as to deposit the gavel of grain upon the ground.

Claim.—First, the combination of the endless belt or chain F and operating mechanism, as described, with a reciprocating rake-head H, for the purpose described.

Second, the combination with the belt F of the wrist-pin L and slotted rod K, substantially as and for the purpose described.

Third, the depositing apron O, constructed as described, and operated by means of the connecting rod K, on the endless belt F, substantially as and for the purpose specified.

No. 31,955.—JOSEPH B. COOPER, of Brooklyn, N. Y.—*Improvement in Ploughs.*—Patent dated April 9, 1861.—This invention consists of an arrangement of the land side and standards whereby the former may be adjusted to suit various kinds of shares used for different kinds of work. In the rear is a foot or standard which works freely on a bolt in a horizontal bar connecting the main standards, and has upon its lower end a subsoil share. By means of a curved or sector arm attached to the rear standard, and passing through a guide in the horizontal bar, where it may be held in position, the subsoil share may be raised from the ground and retained between the land side and mould-board when necessary.

Claim.—First, the attaching of the land side I to the standard E, by means of the screw *g* and strap H, substantially as shown, to admit of the adjustment of the land side I, as described.

Second, the described arrangement of the foot or standard L, sector arm N, bar K, and pin *l*, operating in connexion with a plough in the manner and for the purpose set forth.

No. 31,956.—GEORGE COPELAND, of North Gray, Me.—*Improvement in Looms.*—Patent dated April 9, 1861.—This invention relates to looms for weaving seamless bags and other double or tubular fabrics, and consists in a means of raising and dropping the shuttle-boxes to permit the simultaneous throwing of two shuttles, and weaving at the same time with the upper and lower portions of the bag or tube.

Claim.—The employment, in connexion with the lever E, of the inclined plate *g*, the springs *f* and *h*, and the tripping-piece *i*, the whole applied and combined to operate substantially as and for the purpose specified.

No. 31,957.—H. CURTIS and A. TUFTS, of Charlestown, Mass.—*Improvement in Door Alarms.*—Patent dated April 9, 1861.—This invention consists in so arranging the escutcheon of a lock, in combination with an alarm, that it cannot be turned to disclose the keyhole without sounding the alarm, whilst the escutcheon itself, or a plate connected therewith, becomes an auxiliary fastening, which can only be unlocked by turning the escutcheon to disclose the keyhole of the principal lock.

Claim.—The escutcheon *d* and the disk E, in combination with an alarm apparatus, operating substantially as described, when the disk E is used not only to sound the alarm, when it is revolved in either direction, but also as a fastening for the door, as specified.

No. 31,958.—EZEKIEL DANIELS, of Owego, N. Y.—*Improvement in Fracture Bedsteads.*—Patent dated April 9, 1861.—This invention consists in the arrangement of parts so constructed that the body of the patient may be elevated or depressed independently of the other parts by adjusting the body or back plane on the frame, the former being supported at any desired height by inserting a pillow between the frame and plane. The thigh planes may be extended or shortened by adjusting the slides at the under side of the thigh plane. When necessary, the bedstead may be elevated so as to convert the device into a chair.

Claim.—First, the combination of the hinged frame G with the thigh plane D and back plane H, in the manner and for the purpose shown and described.

Second, the arrangement of the axis C with the thigh plane D, leg planes F, frame G, and back plane H, in the manner shown and described.

Third, the combination of the sliding bar J and rods I, or their equivalents, and screw K, with the thigh plane D, parts F H, and axis C, in the manner and for the purpose substantially as shown and described.

No. 31,959.—WILLIAM L. DAWSON, of Lynchburg, Va.—*Improvement in Soaps.*—Patent dated April 9, 1861.—The ingredients of which this composition consist are potash lye, tallow, and cocoa-nut oil, as a basis, made into a compound by the common process of soap-making. To a requisite amount of heated water is added sal soda, refined borax, spirits of turpentine, and linseed oil, in which the first-named compound is then dissolved, and spirits of hartshorn afterwards added.

Claim.—The combination of ingredients forming the composition set forth, which I believe is a new and useful composition of matter.

No. 31,960.—THOMAS B. DE FOREST, of Birmingham, Conn.—*Improvement in Thread-Winding Guides.*—Patent dated April 9, 1861.—The object of this invention is to guide the thread on to a rotating bobbin or spool from another spool, and it consists of a wooden handle furnished at one end with a tapering metallic tube having a small opening at its end for the thread to pass through. Projecting above the surface is a small metallic tube to receive a spool, the tube fitting upon one side of a bent wire, the other side being secured to the handle, by which means the spool may readily be removed.

Claim.—A portable thread-winding guide, substantially such as described.

No. 31,961.—WILLIAM DRIPPS, of Coatesville, Pa.—*Improvement in Water-Wheels.*—Patent dated April 9, 1861.—The bottom of the wheel may be convex, and there may be a recess in the bottom of the water-case, so that the two shall form a chamber between them, in which there is no ingress or egress except through the joint between them, for the purpose of raising the wheel and relieving the step of much of its weight. The spiral casing, when it arrives at the point where it meets the circumference of the wheel, is bent short round, and extends backward so as to form one of the walls of the inlet water-way. Its end is not fastened, but free to move so as to allow any hard substance to pass without breaking the wheel.

Claim.—In combination with a spiral-cased water-wheel, the making of a water-chamber between the bottom of the wheel and the bottom of the case that is supplied by ingress at the joint, for the purpose of raising the toe of the wheel, as set forth.

Also, the converting of that part of the casing *e c* into a spring, so that it, as well as the continuation of it *d*, may yield to any hard substance that may get into the wheel, substantially as described.

Also, in combination with the buckets of a water wheel, the flanges *f*, for the purpose of preventing the water, when there is but a small supply, from rising up on the bucket, and thus wasting much of its force, substantially as described.

No. 31,962.—HENRY W. EASTMAN, of Baltimore, Md.—*Improved Portable Folding Bedstead.*—Patent dated April 9, 1861.—The bed posts are secured to the frame by means of nuts and screws passing through slots in the frame, so as to admit of the bedstead being easily folded and converted into a box containing the bed, for economy of room and convenience of transportation.

Claim.—The arrangement of the bed-frame A, sliding posts B, the head-board C, slot plates G, bolts F, and thumb-nuts E, substantially as described for the purposes specified.

No. 31,963.—WILLARD T. FARRAR, of Concord, Mass.—*Improved Adjustable Ladder-Hook.*—Patent dated April 9, 1861.—This invention consists of a hook to be temporarily attached to the ladder by clamping it to the two upper rounds; the clamps being made adjustable, so that the hook may be fitted to ladders of different sizes, or in which the rounds are at different distances apart.

Claim.—A removable ladder-hook to be clamped to a ladder when required, one of its clamps being made adjustable, substantially as specified.

No. 31,964.—PETER FAVER, of New York, N. Y.—*Improvement in Mill Picks.*—Patent dated April 9, 1861.—The hammer is provided at each end with an elongated socket into which are fitted the shanks of chisels, secured in positions by means of set screws.

Claim.—The arrangement of the head A, sockets *a*, slots C, set screws D, chisels B B′, and handle F, when these several parts are constructed and combined in the manner and for the purpose specified.

No. 31,965.—GEORGE C. FLAGG, of Tanktown, Ohio.—*Improvement in Gates.*—Patent dated April 9, 1861.—The gate is constructed with the hinge-bar inclined outward at the top, the other sides of the gate being, respectively, parallel with and at right angles to the gate-post. It is provided with a double-jointed hinge to attach the upper end of the hinge-bar to the gate-post, arranged with the post joint directly over the joint of the lower hinge, so that when operated by means of the connexions the gate is raised so as to be unlatched and swings open by its own weight, and is made to close in a corresponding manner.

Claim.—A gate, constructed substantially as described, with the hinge-bar inclined to the gate-post, in combination with a double-jointed hinge, arranged as described, to connect the upper end of the bar with the gate-post, for the purpose as set forth.

No. 31,966.—WILLIAM C. FORD, of West Salem, Ohio.—*Improvement in Corn-Planters.*—Patent dated April 9, 1861.—The discharge-spout surrounds and slides upon a tube fastened beneath the aperture of the seed-box, the latter being provided with a shoe which turns up the earth and covers the seed. Attached to the discharge-spout is a lever pivoted in front of the frame. The grain slides *m m* are connected with the main rod *f*, to which rod is pivoted a lever *d*, having under it a spring *e*, which serves to keep the slides closed when freed by the lever. The slide *i* is operated by means of levers *h*, and is secured to a pinion which is operated by a bevelled cog-wheel on the driving wheel. By means of a series of levers the grain may be deposited in any particular spot, or dropped at regular intervals.

Claim.—First, lever *a*, plough *b*, and sliding discharge-spout *c*, when combined and operated in the manner and for the purpose set forth.

Second, the combination of lever *d*, spring *e*, main rod *f*, and lever *g*, when operated in the manner and for the purpose described.

Third, grain slides *m m*, regulators *n n*, main rod *f*, levers *h d* and *g*, spring *e*, and slide *i*, when the whole shall be constructed, arranged, and operated in the manner and for the purpose set forth.

No. 31,967.—TILMON GILBERT, of Natchez, Miss.—*Improvement in Cotton-Presses.*—Patent dated April 9, 1861.—The rack-bar slides back and forth in a groove or channel in a beam near the bottom of the frame. To one end of the rack-bar are hinged the ends of two bars, the other ends being connected with the under side of the follower. The sliding rack-bar is caused to move back and forth by means of a large spur-wheel in connexion with two pinion wheels, one of which is attached to the driving shaft.

Claim.—The arrangement of the sliding rack F and hinged bars H H with each other and with the follower I and gearing *h k l*, all in the manner and for the purpose shown and described.

No. 31,968.—ANDERSON GODLEY, of Ithaca, N. Y.—*Improved Refrigerator and Water-Cooler.*—Patent dated April 9, 1861.—The coiled pipe, being surrounded with ice, serves to cool the water rapidly as it is passed through in such quantities as required, or it may be kept cool in the reservoir.

Claim.—The combination of a water-cooling reservoir G and pipe H with a refrigerator A, when located in the ice chamber thereof, so that the ice shall be packed around and in contact with them, substantially as and for the purpose specified.

No. 31,969.—WILLIAM H. GRAY, of Dover, N. H.—*Improved Let-Off for Looms.*—Patent dated April 9, 1861.—The yarn beam carries at one extremity a gear which engages with a worm upon the upright shaft, to the lower extremity of which is secured a circular disk B^4, immediately above which is an arm B^5 fitting snugly though not tightly upon the shaft and working freely around it. From the arm B^5 is suspended a curved clamp or jaw B^6 which works freely round the pin *c* as a centre. As the inner side of the jaw B^6 is thrown back by the blow of the lay upon the stop, if the jaw be left free at the opposite extremity it will simply swing round, carrying the arm B^5 with it; but on motion of this arm being checked, any further motion of the jaw will cause it to gripe the disk and carry it with it. The griping at the exact moment required to give off the required amount of yarn after each beat of the lay is effected by means of a rod D termed a tension indicator, allowed to turn freely in bearings secured to the framework, the bent portion pressing upon the woven cloth with a force determined by an adjustable weight upon an arm projecting from the rod.

Claim.—The combination of the balanced rod D, the arm B^5, disk B^4, and jaw B^6, or their equivalents, for determining the tension under which the loom shall operate, and the amount of let-off to be effected after each beat of the lay.

No. 31,970.—Suspended.

No. 31,971.—JAMES O. HAIGHT, of Albany, N. Y.—*Improvement in the Pistons of Steam Engines.*—Patent dated April 9, 1861.—This invention consists in the use of a series of

springs made in a Z-shape, in connexion with a metallic ring and piston for the purpose of obtaining a steam-tight joint.

Claim.—The combination of a divided packing ring or rings with a piston, by means of a spring made out of a flat bar or ribbon of steel bent into a Z-shape, substantially as described, so as to attain the advantages set forth, the spring used in the combination being as an entirety, substantially such as described.

No. 31,972.—CHARLES HARDY, of Biddeford, Me.—*Improvement in Lubricators for Spinning Machines.*—Patent dated April 9, 1861.—This device is designed to prevent the loss of time and waste of oil caused by the ordinary use of oil cans which supply one or more drops of oil to each spindle, and require to be moved from one spindle to the other after each "doffing."

Claim.—The oil can or feeder, having upon its exterior projecting guides or gauges so placed, with reference to the saturated cloth or other fibrous substance that covers the oil hole, that, as the guides traverse upon the fixed parts of any machine, the oiled cloth may come in contact with those parts of the machine that require to be lubricated.

No. 31,973.—EPHRAIM F. and JOSIAH HERRINGTON, of West Hoosick, N. Y.—*Improvement in Mowing Machines.*—Patent dated April 9, 1861.—This invention consists in a device for setting the finger bar forward to compensate for its backward deflection by use, without the use of braces extending in any direction beyond the main frame of the machine. In connexion with a suitable hoisting device is an appliance for raising either the heel or point of the finger bar with a single lever, operating with which is a means to preserve the freedom of the finger bar to accommodate itself to undulations in the surface of the ground. In connexion with a ratchet movement are spring teeth so constructed and applied as to permit the backing of the machine without actuating the cutting mechanism, and with the spring teeth and their connexions is a device for throwing the cutting mechanism out of gear.

Claim.—The adjustable lateral brace-rod K, applied and operating in connexion with the shoe-brace J, substantially as and for the purposes set forth.

Second, the foot-rack N, operating in combination with the segment L, or other suitable hoisting device, to hold the heel of the finger bar while raising the point, as explained.

Third, the spring bar *n*, operating to hold the aforesaid foot-rack out of gear when not in use, to permit the finger bar to rise and fall freely with the uneven surface of the ground.

Fourth, the reversible wedge-shaped plate *i*, applied between the finger bar and shoe, in the manner and for the purpose explained.

Fifth, the combination of the spring pins *d*, disks or yokes *d*2, bosses c, and loose ratchet pinions B, operating in the manner and for the purposes explained.

Sixth, the wedge *d*5, operating in connexion with rods *d*4, clutch-levers *d*3, and yokes *d*2, to retract the pins *d*.

No. 31,974.—CHARLES HOFFMAN and WILLIAM GRAICHEN, of Clinton, Mass.—*Improvement in Temples of Looms.*—Patent dated April 9, 1861.—By the employment of two separate rollers, one may be used for the selvage, which is thicker than the cloth, and the other for the body of the cloth adjacent to the selvage, so that the rollers will readily adapt themselves to the cloth during the beats of the lay of the loom, and thus prevent it from being drawn away as when both parts are supported on one roller. Improper forward draught will be prevented by the ratchet and pawl.

Claim.—The described loom temple, as constructed, with two separate toothed rollers arranged on one spindle, and having the lesser or selvage roller supplied with a ratchet and pawl, as specified, the other roller being free to revolve on the spindle independently of the said selvage roller.

No. 31,975.—BENJAMIN W. HOOD, of Pawtucket, Mass.—*Improvement in Thimbles.*—Patent dated April 9, 1861.—The object of constructing the thimble in sections is to enable the enamel to be laid on and evenly retained, which is not easily effected upon a continuous round surface.

Claim.—A thimble, such as described, having its shell A made of several sections *a*, covered with enamel and secured together by a ring *b*, and cap C, in the manner and for the purpose specified.

No. 31,976.—EDWARD HORALEK, of New York, N. Y.—*Improvement in Boilers for Hot Water Apparatus.*—Patent dated April 9, 1861.—The cast metal head is provided with a grooved flange receiving the ends of the sheet-copper casing, into which groove the sheet metal is dressed, and the whole secured by a wrought-iron band shrunk around the casing and flange.

Claim.—The cast metal head *b* and flange *c*, provided with the groove *d*, receiving the metallic cylinder or casing *a*, combined with the wrought-iron ring *e*, shrunken for the purposes and as specified.

No. 31,977.—JONATHAN HOWARD, of West Bridgewater, Mass.—*Improved Garden Hoe.*—Patent dated April 9, 1861.—The blade of the hoe is constructed with two cutting edges, at

the two opposite sides of which are projections or guides, and is designed to be used between two rows of plants for the purpose of cutting off the roots of weeds.

Claim.—The said weeding-hoe, as constructed, with the guides *d d*, and the handle B, arranged and combined with the peculiar salient and re-entering angular blade A, essentially in the manner and for the purpose as specified.

No. 31,978.—J. W. HOWLETT, of Greensboro', N. C.—*Improvement in Transmitting Motion.*—Patent dated April 9, 1861.—This invention consists of a wheel made of India-rubber, or its equivalent, having a bevelled edge corresponding with a groove in the circumference of the driving-wheel. On each side of the rubber wheel are two circular-flanged plates provided with necks which pass through the centre of the India-rubber wheel, and are secured to a spindle by a collar and nut. By clamping the plates more or less together, the diameter of the elastic wheel will be increased or diminished, and the degree of friction on the driving-wheel will be correspondingly regulated.

Claim.—The employment in transmitting motion from one wheel to another of a bevelled elastic wheel, constructed and arranged upon its shaft with compressing collars, in the manner shown and described, so that the diameter of said elastic wheel may be increased or diminished at pleasure, and the transmission of the power may be thus regulated as desired, all as set forth.

No. 31,979.—ELI HUDDLESTON, of Lawrence, Kansas, and B. M. HARRISON, of Terre Haute, Ind.—*Improvement in Presses.*—Patent dated April 9, 1861.—This invention will be understood by reference to the engraving and claim.

Claim.—The particular arrangement of the follower F, screws H H H H, gearing J J K K, and rods L L, with the box A, top *f*, screws *d d d d*, bars *b b*, nuts *e*, head E, and bars D, as and for the purposes shown and described.

No. 31,980.—DUANE HULL, of Newburg, N. Y.—*Improved Clothes Dryer.*—Patent dated April 9, 1861.—The block to which the four pieces or arms are secured is made concave, so that when the arms are extended they will remain firm, and when folded they will be loose, and the screws with which they are fastened can be easily turned.

Claim.—The concave surfaces of said block B, in combination with said four pieces or arms and line or cord, substantially as and for the purpose specified.

No. 31,981.—ANDREW HUNTER, of Solano county, Cal.—*Improvement in Grain Separators.*—Patent dated April 9, 1861.—The vibrating trough is covered with three screens—two of wire, and the other of punched zinc, having underneath them compartments for the reception of small and large grain. The inclination of the trough can be adjusted by the chains, and the lower screen is also rendered adjustable by means of a slotted plate and screw.

Claim.—A vibrating trough B, suspended by adjustable chains, in combination with screws *c c'*, and screen D, adjustable by means of plate *d*, and box F, and spout G, arranged in relation to each other, as described, and for the purpose of separating grain.

No. 31,982.—JAMES J. JOHNSTON, of Alleghany, Pa.—*Improvement in the Distillation of Hydrocarbon Oils.*—Patent dated April 9, 1861.—This invention consists in purifying rock or coal oil by placing it in its natural condition in a retort, with an equal quantity, by measurement, of charcoal, and applying a proper degree of heat.

Claim.—The process and method of purifying, decolorizing, and deodorizing rock or petroleum oil by distilling it with common wood charcoal, in proportions substantially described.

No. 31,983.—ANSON JUDSON, of Brooklyn, N. Y.—*Improvement in Lamps.*—Patent dated April 9, 1861.—The object of this invention is to expose and render available the whole flame of the lamp from the wick.

Claim.—The construction of the cone A, or its equivalent of glass or other transparent material, as and for the purpose described.

No. 31,984.—JOSEPH K., and EDWARD E. KILBOURN, of Norfolk, Conn.—*Improvement in Knitting Machines.*—Patent dated April 9, 1861.—The object of this invention is mainly to produce knitted fabrics of varying widths, such as sheets of fabric for knit drawers and the sleeves of knit shirts with selvage edges. It is also appliable to other knit fabrics in which ornamental patterns are produced by the transferring of stitches. The specification must be referred to for a description of the construction and operation of the machine.

Claim.—First, the combination of a travelling needle in a knitting-machine, with automatic mechanism for causing it to travel along the gang of needles of the machine, substantially as set forth.

Second, the combination of a travelling needle with mechanism for withdrawing the needle, whose place the travelling needle is to occupy from the gang at work previous to the substitution of the travelling needle in its place, substantially as set forth.

Third, the combination of a travelling needle with mechanism for reinserting the other needle of the gang, whose place the travelling needle has occupied after the travelling needle has been removed therefrom, substantially as set forth.

Fourth, the combination of a travelling needle with a mechanical instrument for transferring the stitch from the needle that is withdrawn from the gang at work to an adjacent needle, substantially as set forth.

Fifth, the combination of a travelling selvage needle with a thread guide, by means of devices which cause the thread guide to vary its delivery of yarn in correspondence with the change in the position of the travelling selvage needle relative to the other needles of the machine, substantially as set forth.

Sixth, the combination of a travelling needle with a series of needles which move to and fro past a thread guide, but do not travel laterally to each other, substantially as set forth.

Seventh, the combination of a travelling selvage needle with mechanism for reversing the movement of the needle carriage in such manner that the time at which the movement is reversed depends upon the position of the travelling selvage needle, substantially as set forth.

Eighth, the combination of the series of sinkers of a knitting-machine with a travelling instrument for withdrawing the sinkers which happen to be at the selvage of the fabric from their positions in the series, substantially as set forth.

Ninth, the combination of the series of sinkers of a knitting-machine with a travelling instrument for withdrawing a portion of the sinkers outside of the gang at work from their positions in the series, substantially as set forth.

Tenth, the combination of instruments for griping the yarn with mechanism, that causes them to act at the time the selvage needles are forming their loops, substantially as set forth.

Eleventh, the combination of griping instruments with mechanism for operating them and the needles in such manner that the gripe is relaxed in time to prevent the breaking of the yarn by the action of the needles, substantially as set forth.

Twelfth, the combination of the thread guide with mechanism for depressing it immediately after the last needle in the series at work has been fed with yarn, and before the needle is withdrawn into its nosing, substantially as set forth.

Thirteenth, the combination of travelling temples with a knitting-machine for forming work of variable width in such manner that the position of the temples is varied as the number of needles at work increase or diminish, substantially as set forth.

Fourteenth, the combination of a whip-roll of unequal diameter at different parts of its length with the take-up rolls of a knitting-machine, substantially as set forth.

Fifteenth, the combination of instruments for varying the strain upon the fabric between the place where the knitting is effected, and the take-up rolls with a knitting-machine for forming work of variable width, substantially as set forth.

Sixteenth, the combination of under supports, having bearings for the needles outside of the sinkers, with a depressible thread guide, constructed and operated substantially as set forth.

No. 31,985.—JOHN LAING, of Hoboken, N. J.—*Improved Gas Generating Steam Boiler.*—Patent dated April 9, 1861.—One or more retorts are combined with a steam boiler in such a manner that the same fire which is employed to convert the water in the boiler into steam also heats the retorts, and by introducing suitable materials into said retorts, steam and illuminating gas are produced simultaneously. A series of gas pipes and air holes are combined with an additional fire-chamber situated near the main fire-chamber, so that, by the action of the gas and air thus introduced into the secondary fire-chamber, the smoke and other combustible gases escaping from the main fire-chamber are consumed, and an additional heating surface is obtained. In combination with a conical vessel is a three-way cock, by which means the oil and water used for making the illuminating gas are mixed together before entering the retorts. With the three-way cock is combined two gasometers and a series of levers with weights or springs, so that the supply of oil and water to the retorts is regulated by the quantity of gas in the gasometers.

Claim.—First, combining one or more retorts A, with a steam boiler C, substantially in the manner and for the purpose specified.

Second, the arrangement of a series of gas pipes E, and air holes *d*, in combination with the secondary fire-chamber D, of a steam boiler G, constructed and operating substantially in the manner and for the purpose shown and described.

Third, the arrangement of the three-way cock N, and conical vessel Q, in combination with the tanks P P′, and retort or retorts A, constructed and operating substantially in the manner and for the purpose set forth.

Fourth, mixing the oil and water before it passes into the retort or retorts, as and for the purpose described.

Fifth, the arrangement of the two gasometers L and O, rod *m*, weighted arm *p*, or its equivalent, three-way cock N, and rockshaft *o*, in combination with the supply tanks P P′, and retort or retorts A, constructed and operating substantially in the manner and for the purpose specified.

No. 31,986.—MARK LEVY, of New York, N. Y.—*Improvement in Retorts for the Manufacture of Gas from Wood.*—Patent dated April 9, 1861.—The object of this invention is to expose a large extent of heating surface, the wood or other substance from which the illuminating substance is to be generated being placed on both sides of the series of flues.

Claim.—The arrangement and use of the elliptic-shaped retort A, with the central unremovable reheating flues E E′ E″, &c., dividing said retort in two parts, constructed and combined together in the manner and for the purpose substantially as described.

No. 31,987.—RICHARD B. LIGHT, of Dunkirk, N. Y.—*Improved Machinist's Instruments for Determining Geometrical Lines, Centres, &c.*—Patent dated April 9, 1861.—This invention consists of a small portable device for the use of machinists in determining geometrical lines, centres, &c., in various mechanical operations.

Claim.—The combination of devices arranged substantially as described, so as to constitute one instrument, whereby the several operations referred to and illustrated may be executed as set forth.

No. 31,988.—WILLIAM A. LIGHTHALL, of New York, N. Y.—*Improvement in Feed Water Apparatuses for Steam Boilers.*—Patent dated April 9, 1861.—This invention consists in so arranging and locating the delivery-pipe from the hot well, and the feed-pipe of the force pump in relation to the hot well, that the surplus water produced by the condensation of the steam in the condenser (being the quantity in excess of the injection water,) shall flow into the feed-pipe, to pass the feed pump when the injection water shall have filled the delivery-pipe, to pass off the cooling apparatus, to be cooled and used again in the condenser.

Claim.—The combination of the delivery-pipe F, and the feed-pipe H, when arranged and located, in relation to each other and to the hot well G, as described and for the purposes set forth.

No. 31,989.—LINUS MERRILL, of Janesville, Wis.—*Improvement in Grain Separators.*—Patent dated April 9, 1861.—The object of this device is to pass off the sound grain through the several parts of the upper screen, while oats and large impurities are directed by ledges or flanges into the central trough and discharged through a spout from the machine. The inventor disclaims the separate parts of the machine.

Claim.—The screens C D, when subdivided into smaller screens a^*, provided with central troughs F G, and chutes *a*, and used in connection with a screen E, to operate as and for the purpose set forth.

No. 31,990.—ALEXANDER MILLAR, of New York, N. Y.—*Improvement in Cork Cutting Machines.*—Patent dated April 9, 1861.—The invention consists in combining with the common rotary "blank" holder certain devices for the purpose of adjusting the blank holder, so that tapering or straight bottle corks of different sizes may be cut with the same machine. With the alternately reciprocating knife-frame are combined devices for regulating the rotation and the advancing and receding movement of the revolving blank holder, so that the rough pieces of cork to be cut will be automatically embraced by this revolving head, while being cut and discharged therefrom at proper times. With relation to the movement of the knives and the blank feeder, combined with the blank carrier or feeder, are devices whereby the blanks will be automatically brought up to the revolving blank holder at the proper time to be embraced by said holder, the carrier or feeder being operated by a cam on the knife frame and a weight or spring, and capable of being easily adjusted and having its motions adapted to the several adjustments of the revolving blank holder.

Claim.—First, the laterally adjustable bed plate G, arranged on table A, and combined with the blank holder *g*, and its accessories; and in combination therewith the second adjustable plate G′, arranged on the bed plate G, and pivoted at one end *f*, substantially as set forth, for the purpose of adjusting the blank holders during the operation of the knives in cutting the corks.

Second, in combination with the horizontal reciprocating knife-frame B, the inclined plate *p*, pivoted arm *n*, shaft *m*, arm *l*, and the grooved collar *l′*, an arbor *g*, with the pivoted arm J, horizontal bar 5, on frame A′, spring 6, and the bar 7, on knife-frame B, all arranged and operating in harmony substantially as described and represented.

Third, securing the horizontal knives D D′, to the knife-frame B, substantially in the manner set forth, so that these knives may be adjusted vertically and at the same time, so that they may be pitched to any desirable angle with a vertical line.

Fourth, the extension arms 20 and 21, adjustable stem or post 17, tube 23, and blank carrier arm 24, adjustable pivoted arm 30, pulley wheel *v* with its weight and cord 27, 25, in combination with a cam K on knife frame B, all arranged and operating as and for the purposes set forth.

No. 31,991.—HENRY NAPIER, of Brooklyn, N. Y.—*Improvement in Apparatus for Manufacturing Turpentine and Rosin.*—Patent dated April 9, 1861.—The straining vessel is connected with the retort by a pipe and tap, and is furnished at its lower part with movable sieves of varying fineness. The upper part of the strainer is connected with an air pump, by which means a vacuum is formed in the strainer and still after the crude turpentine is placed in the strainer. The turpentine being heated, the vacuum in the upper part of the strainer is destroyed, and the melted turpentine is forced by atmospheric pressure through the sieves. Steam being generated in the boiler, passes through the mass in the still and carries with it the oil of tur-

pentine to the condenser, the rosin being discharged from the pipe in the bottom of the retort.

Claim.—The arrangement together for joint operation, in the manner substantially as shown and described, of the jacketed vacuum straining vessel A, retort B, boiler C, and condenser D, for the purposes set forth.

No. 31,992.—JOHN NOBLIT, of Philadelphia, Pa.—*Improvement in Hair Cloth Looms.*—Patent dated April 9, 1861.—The object of this invention is to afford a certain means of securing the feed of hair without interfering with the motion of the lay, by means of a crank shaft in connexion with a rock shaft, which crank shaft has a double function, that is, having the throw of one part of the crank to operate the lay, while the other part effects the movement of a pair of nippers, which catch the hair and carry it forward.

Claim.—Driving the nippers in a hair cloth loom by means of the rod J, and rock shaft I, when the latter is caused to oscillate by a crank on the same shaft which drives the lay, substantially as described.

No. 31,993.—SAMUEL ORR, of East Springfield, O.—*Improvement in Apparatus for Dressing Feathers.*—Patent dated April 9, 1861.—The steaming cylinder is made with a double rim having a chamber or steam space between the two rims. Its axis consists of a pipe furnished with an inlet cock for the admission of steam. On the top and sides of the cylinder are screens provided with slides. By means of a revolving fan a suction is created which carries the blast to a sack into which the feathers are forced, the sack being attached to the mouth of the fan-box.

Claim.—First, the combination with the steam jacket of a feather-dressing machine of screens covered with slides, arranged and operating substantially as described.

Second, the combination with a steam chamber and steam jacket, arranged as described, of the pipes B F, and cocks C *f*, arranged and operating as described.

Third, the combination with a feather-dressing machine, constructed as described, of a fan arrangement, and operating in the manner set forth.

No. 31,994.—HENRY PENNIE, of Brooklyn, N. Y.—*Improvement in Roller Skates.*—Patent dated April 9, 1861.—The object of this invention is to increase the rolling surface laterally without materially increasing the friction, so as to give the skate a firmer bearing than is obtained by a single line of rollers. The rollers may be adjusted transversely and brought nearer together or set further apart for increasing or diminishing the lateral bearing surface.

Claim.—A roller skate provided with two rows of tubular adjustable rollers, and the whole constructed and operating as shown and described.

No. 31,995.—CHARLES H. PERKINS, of Providence, R. I.—*Improved Toe Calkin for Horseshoes.*—Patent dated April 9, 1861.—This invention consists in attaching the calkin to the toe of the shoe by means of two steel points placed on the former, which, in the operation of welding, are bent into the shoe.

Claim.—The improved toe calkin described, consisting of a steel piece A, provided with one or more tapering steel spurs *b b*, placed midway between the two extremities, or nearly so, for the purposes described.

No. 31,996.—ALOIS PETELER, of New Brighton, N. Y.—*Improved Apparatus for Disinfecting Foul Air in Vessels.*—Patent dated April 9, 1861.—A fan-blower, or its equivalent, is combined with a refrigerating chamber, and with suitable suction and discharge pipes, in such a manner that the infected air of a vessel can be passed once or several times through the refrigerating chamber until its temperature is reduced to such a degree that the impurities which cause the infection are destroyed, without allowing any portion of the infected air to escape to the open atmosphere. A series of hollow revolving drums are arranged on a hollow shaft, the interior of which is divided into several channels, in such a manner that the current of air created by the fan-blower is compelled to make a long circuit in the interior of the refrigerating chamber, and its temperature reduced before passing out on the opposite side of the said chamber.

Claim.—First, the arrangement of a fan-blower B, or its equivalent, in combination with the refrigerating chamber F, and tubes C and H, passing through the deck A of a vessel or other closed space, substantially in the manner and for the purpose set forth.

Second, the arrangement of the rotary hollow shaft E, with channels *e*, apertures *g g'*, and drums G, with abutments *h*, in combination with the fan-blower B, or its equivalent tubes C and H, and with the refrigerating chamber F, constructed and operating in the manner and for the purpose described.

No. 31,997.—THOMAS PHILLIPS, of Ann Arbor, Mich.—*Improved Handle for Hammers.*—Patent dated April 9, 1861.—The object of this invention is to prevent the jar usually given to the hand and arm when striking a heavy blow with the hammer.

Claim.—Dividing the handle into two parts, and applying a spring (either lever or spiral) in such a manner as to spread the two parts of the handle apart, allowing them to spring together, and vice versa, when a blow is struck, and the surrounding of the whole with some

pliable or springy substance, as India-rubber, the whole being arranged as described for the purposes specified.

No. 31,998.—ABRAHAM QUINN, of New York, N. Y.—*Improvement in Apparatus for Distilling Oils.*—Patent dated April 9, 1861.—An inverted siphon is combined with the still and condenser, so as to enable the distilling and refining of the oils to be effected at one operation by the same heat, without the use of agitators, pumps, or analogous machinery. It also serves as a safety-valve in case the paraffine or palm oil has been allowed to solidify in the worm, by neglect of the operator, and also as a vacuum chamber, to prevent oil boiling over from the still into the condenser and mixing with distilled oil in the receiver. It also serves as a means of running back a portion of the oil to the still.

Claim.—The rectifier, composed of the inverted siphon E F, with its faucets and other appendages, substantially as described, applied in combination with the still and condenser, in such a manner as to be capable of effecting the several operations and purposes set forth.

No. 31,999.—GEORGE P. REED, of Roxbury, Mass.—*Improved Watch Escapement.*—Patent dated April 9, 1861.—This invention is designed to combine the advantages of both the lever and chronometer escapements, without the disadvantages of either.

Claim.—So applying the lever, in combination with chronometer escapement, that the whole impulse given to the balance in one direction is transmitted through the lever, and the whole impulse in the opposite direction is transmitted directly to the "chronometer impulse pallet," substantially as described, locking and unlocking the scape wheel but once at each and every impulse given by said wheel.

No. 32,000.—MOSES T. RIDOUT, of Milwaukie, Wis.—*Improved Railroad Indicator.*—Patent dated April 9, 1861.—This invention consists in the connexion of a dial, by means of suitable mechanism, with the axle of a locomotive, so that the exact locality on the road and the distance travelled will be indicated on the dial. On returning, the dial is reversed.

Claim.—Described combination and arrangement of reversible dial plate and hand, with its actuating mechanism, substantially as set forth.

No. 32,001.—HORATIO RODD, of Chestnut Hill, Pa.—*Improved Linen Smoother.*—Patent dated April 9, 1861.—The object of this invention is to smooth and glaze linen after it is washed, by means of a roller made to pass over the linen, which is placed on a bed-piece resting upon springs, within a suitable frame.

Claim.—The combination and arrangement of the frame *a a a a*, cross bars with springs B B, the bed C C, the roller D, the bars E E, the drums F F, and the bands G G, substantially as and for the purpose specified.

No. 32,002.—BENJAMIN RUSSELL, of New York, N. Y.—*Improved Door Bolt.*—Patent dated April 9, 1861.—The button by which the bolt is moved, instead of being firmly secured to the bolt, is made to move in and out freely in a hole in the body of the bolt and a short tube. The edge of the bolt opposite the tube is furnished with ratchet teeth and a drop catch, by which means the bolt may be rendered self-locking and securely fastened.

Claim.—The arrangement of the sliding button C, with the locking pin *c'* and inclined plane *d*, in combination with the drop catch D and ratchet teeth c_2, on the edge of the bolt A, constructed and operating in the manner and for the purpose specified.

No. 32,003.—EDWARD B. SAVAGE, of Cromwell, Conn.—*Improved Mode of Attaching Gun Stocks to Pistols.*—Patent dated April 9, 1861.—The clamping dog is arranged to work as a lever upon a fixed fulcrum, composed of a boss formed on a brace within the lock frame. The upper part of the dog is provided with a hook, bevelled on its under side to correspond with the bevel of the neck piece, and the lower part of the dog is bent and tapped to receive a screw which passes through a slot in the but of the lock frame and secures the parts together.

Claim.—The lever-like and longitudinally-moving hooked clamping dog C and its set screw D, applied in connexion with the lock frame of a pistol, to operate in combination with suitable locking devices on the neck piece of the stock, substantially as and for the purpose specified.

No. 32,004.—ISAAC D. SEELY, of Milford, N. Y.—*Improvement in Water Wheels.*—Patent dated April 9, 1861.—Directly opposite and in line with each bucket is an issue, and within the cylinder is placed a stop or cut-off, a portion of which is of curved form, concentric with the shaft, and having a position at the ends of the buckets beneath the chute. The stop or cut-off is designed to prevent the water in the cylinder from passing around with the cylinder more than one revolution, for the purpose of obtaining power from both the direct and reacting force of the water.

Claim.—The stop or cut-off E, in connexion with the buckets *a'*, cylinder C, and chute F, arranged relatively with each other for joint operation, as described.

No. 32,005.—O. W. SEELY, of Albany, N. Y.—*Improvement in the Construction of Salt Kettles.*—Patent dated April 9, 1861.—This invention consists in so constructing the kettle that the greatest heat shall be concentrated upon the middle and upper part or strata of the liquid to be treated, and that the salt, as fast as it crystalizes, shall descend to the part of the kettle which is below the fire, and that the heat of the fire, by being concentrated on the inner faces or sides of the kettle, shall be most favorable for keeping up a rapid circulation in the boiling liquid.

Claim.—The combination of the central arch B, containing the fire grate, with the two inverted arches at *b b*, to form the bottom part of the boiler in the shape represented and described, and for the purpose set forth.

No. 32,006.—PORTER SEWARD, of Chaseville, N. Y.—*Improvement in Wagon Brakes.*—Patent dated April 9, 1861.—This invention consists in so arranging a crank-bar, upon which is a pulley, in connexion with the draught-pole, that upon checking the horses the backward movement of the draught-pole causes the crank-shaft to turn and wind up a chain, the other end of which acts upon a lever, to which the brake-bar is attached. The rubbing blocks are pivoted, so that in backing the wagon they will be thrown up by friction of the wheels upon their surfaces, and allow a free motion of the wheels.

Claim.—The arrangement of the crank G, pulley *e*, chain *f*, and adjustable rod H, with the draught-pole F, lever I, spring K, brake bars J J, rods *g g*, and pivoted rubbing blocks *n n*, all in the manner and for the purposes shown and described.

No. 32,007.—HENRY L. SHAW, of Milan, O.—*Improvement in Sewing Machines.*—Patent dated April 9, 1861.—Attached to the slide is a bent arm P that moves in a slot of the arm M of the looper. Q is also an arm, placed differently, to work in another slot of the looper when one thread only is used. On the end of a shaft is a wheel having a wrist that moves in a perpendicular slot of the slide O, the revolution of which wheel gives to the slide a horizontal motion back and forth, which is conveyed to the looper by the arm P. With this looper two threads are used, while with the looper shown in Fig. 5 only one thread is used, for forming a single chain stitch.

Claim.—The special arrangement of the slider O, operated as shown, with its pins P and Q, for the purpose of operating therewith either the looper shown in Fig. 4 or that shown in Fig. 5, to make a single or a double chain stitch, in the manner substantially as described.

No. 32,008.—WILLIAM H. SHORT, of Brooklyn, N. Y.—*Improved Inlet for Sewers.*—Patent dated April 9, 1861.—The basin head forms part of the curbing of the sidewalk. The trap box is placed upon the brick work of the basin, so that its upper edge and the plate or pan are in the gutter, and form a part of the outside of the curb. The mudsill is formed with vertical bars, and is secured in and to the trap box; and the arched curb which forms a part of the pavement is placed upon the trap box and keyed to it by the grate bars, secured in recesses.

Claim.—The cast-iron basin head, formed of the trap box D, mudsill E, and arched curb G, constructed and combined in the manner substantially as described, for the purposes set forth.

No. 32,009.—DANIEL E. SOMES, of Biddeford, Me.—*Improvement in the Method of Preserving Meat.*—Patent dated April 9, 1861.—Attached to the building in which the articles to be cured are placed is an air duct, within which is arranged a fan-blower, driven in any convenient manner, for the purpose of drawing a current of air from the atmosphere at a point as far as practicable from the surface of the earth.

Claim.—The described mode of curing meats, &c., by cutting off side currents of air and introducing into the building a cooler, a drier, and a purer air than that near the surface of the earth, substantially as and for the purpose specified.

No. 32,010.—JAMES A. SPEER, of Manchester, Pa., assignor to WILLIAM J. KANE, of same place.—*Improvement in Cultivators.*—Patent dated April 9, 1861.—Attached to the draught beam and standard is a second curved beam, provided with lugs, to which a scraper may be attached. The several attachments of the second beam and scraper are made by bolts passing through slots and secured by nuts, by which means the point of the draught beam and the scraper may be raised and lowered.

Claim.—The arrangement of the draught beam *a*, second beam *c*, scraper *d*, and slots 1 2 3 and *x*, when constructed substantially as described, for the purpose set forth.

No. 32,011.—DAVID STEWART, of Annapolis, Md.—*Improvement in Coffee-Pots.*—Patent dated April 9, 1861.—Upon the under side of the strainer, at the bottom of the biggin, is stretched a second strainer, made of a disk of flannel, the lower edge of the biggin extending downward a little below the strainer, so as to leave a space between the two strainers. The flannel strainer is held in place by means of a tin collar, so fitted as to project below the strainers and elevate them above the bottom of the coffee-pot. A flannel strainer is also placed below the upper edge of the biggin, the edges of the strainer projecting upward, nearly

in contact with the surface of the cone. The flannel that dips into the biggin above serves to conduct the condensed steam from the condensers, and spreads it over the magma, so as to keep up a series of cohobations, the extremities of the flannel catching the drops as they descend from the condenser.

Claim.—Combining such a biggin with a chamber of decoction and chamber of condensation, in which the water of condensation is returned to the magma in the manner set forth.

No. 32,012.—JACOB J. STORER, of Philadelphia, Pa.—*Improvement in Desulphurizing Coal and Ores.*—Patent dated April 9, 1861.—The coal or ores to be desulphurized are placed in a receptacle connected by a pipe with a vessel in which are placed the chemical ingredients, consisting of carbonate of ammonia, sal ammoniac, carbonate of potash, and quick-lime. Connected also by a pipe with this vessel is a steam-boiler, from which steam is made to pass through the chemical ingredients, by which it is impregnated, and thence into the coal or ore, which thus become desulphurized.

Claim.—The employment, in the manner specified, of ammonia in connexion with steam in the process of desulphurizing coal and ores.

No. 32,013.—CHARLES F. TAYLOR, of New York, N. Y.—*Improvement in Apparatus for Reducing Spinal Curvatures.*—Patent dated April 9, 1861.—This apparatus is so constructed as to enable the patient to place himself in a state of repose in such a position as to force apart the narrow edges and press together the wide edges of the joints of the bones of the vertebra, for the purpose of reducing the curvature.

Claim.—First, the combination of the bench 1, adjustable supports 3, and adjustable pad or strap 4, substantially as described, and in such a manner as to accomplish the purpose set forth.

Second, the head-rest represented in Fig. 4, constructed as described, by which the weight of the head is made to exert a pressure upon one shoulder, and a lifting force under the other, substantially as described.

No. 32,014.—CHARLES F. TAYLOR, of New York, N. Y.—*Improvement in Apparatus for Reducing Spinal Curvatures.*—Patent dated April 9, 1861.—This invention consists in the combination of two posts fitted with sliding rests or bearings for the body, one of which is hinged to the floor, and the other either hinged or stationary. In connexion with the above is a third post, hinged to the floor, and provided with a slide and pad which fits under the arm of the patient, holding him bent over, so that the muscles on the concave of the spinal column shall be extended.

Claim.—First, the combination of the posts 1 and 6 with their adjustable supports 8 and 2, one being hinged to the floor, to allow of lateral adjustment, and the other either hinged to the floor or stationary, as may be desired, the whole being constructed, combined, and arranged substantially as set forth.

Second, the combination with the two posts 1 and 6, and their adjustable supports 8 and 2, of a third post 16, constructed in a similar manner to the first two, and hinged at the bottom, as and for the purpose set forth.

No. 32,015.—CHARLES F. TAYLOR, of New York, N. Y.—*Improvement in Apparatus for Reducing Spinal Curvatures.*—Patent dated April 9, 1861.—This invention consists in a device by which the weight of the body may be supported by the hands upon two points of support, the relative height of which may be gradually changed, while at the same time the body is also supported laterally by a fixed bearing opposite to, and on the outside of, the curvature.

Claim.—The combination of the vibrating upright or support 2, pad 6, and handles 7 and 8, substantially as described, for the purpose set forth.

No. 32,016.—W. R. THOMAS and M. EMANUEL, JR., of Catasauqua, Pa.—*Improvement in Composition for Blasting Powder.*—Patent dated April 9, 1861.—This invention is explained by the claim.

Claim.—The composition or blasting powder made of nitrate of soda, flower of sulphur, ground bark, and water, in the proportions and manner set forth.

No. 32,017.—GRANT B. TURNER and JAMES A. VAUGHN, Cuyahoga Falls, O.—*Improvement in Grain Separators.*—Patent dated April 9, 1861.—This invention will be understood by reference to the engraving and claim.

Claim.—The combination of the series of screens inclined in one direction and the series of directing boards inclined in an opposite direction with the receiving boxes and fan-blast, and a shake motion, substantially as and for the purpose set forth.

Also, a device for giving a rapid shake motion to the riddles or screens, without jarring them, an eccentric and yoke, constructed, arranged, and operating as described and represented.

No. 32,018.—THOMAS G. VOORHIS and WILLIAM B. WHITEMAN, of New York, N. Y.—*Improved Mosquito Net.*—Patent dated April 9, 1861.—The cam catch is attached to the

centre rod of the frame through which the suspending cord of the net is returned, and consists of a weighted hook which admits of the cord being easily drawn down and holds it in position.

Claim.—The combination of the cam catch D with the jointed frame and netting, as described and for the purpose set forth.

No. 32,019.—SAMUEL H. WALKER and MATTHEW C. WALKER, of Boston, Mass.—*Improvement in Gas Retorts.*—Patent dated April 9, 1861.—This retort is more particularly designed for generating gas from melted rosin or other hydro-carbons, and the invention consists in making the retort of larger calibre and with greater generating surface at the middle of its length, and decreasing in calibre towards both ends, for the purpose of obtaining a more uniform distribution of heat throughout the length of the retort.

Claim.—A horizontal retort formed with a flat bottom and cylindrical flanged ends, and tapering gradually in size from the centre toward each end, in the manner shown and described and for the purposes explained.

No. 32,020.—GEORGE R. WILMOT, of West Meriden, Conn.—*Improved Head of Screws and Tacks.*—Patent dated April 9, 1861.—This invention consists of an elastic-headed screw or tack, made by drawing a piece of India-rubber into a metallic ring in such a manner as to compress the rubber in the ring and cause its adhesion to the metal, while at the same time the rubber which extends outside of the ring and forms the elastic head is allowed to expand and give the proper size of material for the head, and the requisite elasticity also.

Claim.—The screw or tack described, as a new article of manufacture, when constructed in the manner described, and involving the features of advantage and novelty set forth.

No. 32,021.—JOSEPH H. WINSOR, of Providence, R. I.—*Improvement in Machines for Tentering and Drying Cloth.*—Patent dated April 9, 1861.—This invention consists of an apparatus by which the cloth is made to travel through a more or less circuitous path, by means of tenter hooks attached to an endless chain, so arranged that, during the first portion of its travel only, the cloth shall be subjected to a gradually increasing strain; in connexion with which is a hollow shaft of sufficient size to enclose the cloth in its passage while on the tenter hooks, through which shaft is made to flow a continuous stream of heated air. The machine by which the cloth is stretched is placed upon the top of a hollow shaft of brick-work, at the lower part of which is a furnace.

Claim.—A machine for tentering textile fabrics, constructed substantially as described, combined with and travelling in a hollow vertical shaft through which a continuous current of heated air is passing, substantially as described.

No. 32,022.—SELIM E. WOODWORTH, of Murphy's, Cal.—*Improved Amalgamator.*—Patent dated April 9, 1861.—In the operation of this apparatus, the tailings from quartz mills, &c., are received into the globe through the longer tube E upon the mercury at the bottom. The superabundant mass of water and other material will pass off through the outer tube F over the table, the precious metal being deposited in the mercury.

Claim.—An air-tight vessel A, partially filled with mercury, in combination with two concentric tubes B E and table C, all constructed as and for the purposes described.

No. 32,023.—THEODORE BURR, of Battle Creek, Mich., assignor to Himself, AUGUSTUS ROWER, and PARCEL BRINKERHOFF, of Michigan.—*Improvement in Sewing Machines.*—Patent dated April 9, 1861.—This machine is designed for making button-holes. Fitted upon the main shaft is a cam which operates two levers passing up vertically through the frame and crossing each other at or near their centres, at which point they are pivoted to the frame, so as to allow a movement, by the action of the cam, which presses forward the horizontal shaft K, placed in a slot in the centre of the stand and secured by means of two boxes, so as to allow a longitudinal and rotating movement of the shaft. This shaft is provided at its end with two prongs, each of which is forked, and which catch the thread from the needle and carry it in line with the hook-fork *t*, over which the upper prong is turned, so that in raising the hook-fork *t* the loop is brought up through the button-hole and, by means of a spring, thrown under the needle, where it is held until the needle passes through the slot in the hook-fork *t* and secures the loop thus formed.

Claim.—The combination of the cam G, the levers H and *i*, operating upon the horizontal shaft K, having forked prongs *d d* and *b b*, and spiral twist, and the fork *a*, as described and for the purpose set forth.

Also, the cog or spur F, in combination with the shaft E, provided with feathers R R and hook-fork P, operated upon by spring *o*, substantially as and for the purpose set forth.

No. 32,024.—J. A. DE BRAME, of New York, N. Y., assignor to BENJAMIN GURNEY, of same place.—*Improvement in Skates.*—Patent dated April 9, 1861.—Upon a stud secured to the skate-iron is a plate, on the upper surface of which are cast one or more hooks turned backward and fitting in slots in the front part of the sole of the boot. Near the rear end of the runner is another stud and plate with a pin projecting upwardly into the heel. To a block secured to the heel-plate is attached a spring projecting upwardly and provided with a hooked projection which fits into a hole in the heel, by which means the skate is securely fastened to the boot.

Claim.—First, the hook or hooks *a* turned backward, as shown and described in Fig. 1 of the drawings, in combination with the heel-spur or spurs *c*, fitting loosely into a hole made in the heel of the boot for the purpose of retaining the hook *a* in its plate, as set forth.

Second, combining with the hook *a* and heel-spur *c*, the spring-latch *d e*, when the latter is arranged on the back part of the heel of the boot and catches into a recess in said heel, as set forth.

No. 32,025.—JOHN FOWLER, jr., of Leeds, formerly of Havering, England, assignor to WILLIAM PENN TATHAM, of Philadelphia, Pa.—*Improvement in Machinery for Ploughing and Tilling Land.*—Patented in England, September 8, 1856.—Patent dated April 9, 1861.—This invention relates to an improvement in ploughs which are operated by steam power, and is applied to a machine having two gangs of ploughs attached to and carried by a tilting frame which vibrates on an axis, so that when one gang is brought down into action the other is lifted up clear of the land. The invention consists in combining with the above a steering apparatus, by a mechanism which enables the operator while riding on the machine to change at will the direction of the motion in ploughing.

Claim.—Combining the pulley on the anchor carriage, which receives motion from the engine by the pulling of the ploughs or other implements, with the drum that operates the anchor rope by means of the intermediate mechanism described, or any equivalent therefor, as described and for the purpose set forth.

No. 32,026.—JOHN FOWLER, jr., of Leeds, formerly of Havering, England, assignor to WILLIAM PENN TATHAM, of Philadelphia, Pa.—*Improvement in Machinery for Ploughing and Tilling Land by Steam.*—Patented in England, September 8, 1856.—Patent dated April 9, 1861.—This invention relates to that class of machines for ploughing by steam power in which the locomotive engine moves at intervals along one edge of the field, and ropes pass from the engine to and around a pulley attached to an anchor moved at intervals along the opposite edge of the field. The object of the invention is to move the anchor by the power of the engine at the opposite side of the field, by combining with the pulley on the anchor carriage around which the rope passes to operate the ploughs, and with the drum of a rope connected with an anchor, an interposed mechanism to operate the said drum at the required intervals to advance the anchor carriage by the motion of the pulley derived from the engine.

Claim.—Combining with the central pair of sustaining wheels and with the frame which carries the two gangs of ploughs or other tilling instruments a steering apparatus, substantially as described.

No. 32,027.—JOHN FOWLER, jr., of Leeds, formerly of Havering, England, and DAVID GREIG, of Leeds, England, assignors to WILLIAM PENN TATHAM, of Philadelphia, Pa.—*Improvement in Machinery for Ploughing and Tilling Land.*—Patented in England, February 28, 1856.—Patent dated April 9, 1861.—The object of this invention is to avoid the necessity of turning the ploughs at the end of each course across the field, and it consists in mounting two gangs of ploughs, or other tilling instruments, in suitable frame-work and connecting them with a pair of sustaining and gauging wheels interposed between two gangs of instruments, when combined with pulling ropes and means of attachment thereto, so that the ploughs may be drawn across the field alternately in opposite directions, and at the end of each course be lifted out of action, and the other set brought into action for the reverse course, without turning the implements or disconnecting them from the pulling ropes.

Claim.—Mounting two gangs of ploughs or other tilling instruments in suitable frame-work, and connecting them with a pair of sustaining and gauging wheels interposed between the two gangs, substantially as described, when this is combined with the pulling ropes or chains and suitable means of attachment thereto, substantially as described, so that by the operation of an engine on one side of a field and suitable anchoring apparatus at the other side, the said instruments can be drawn across the field alternately in opposite directions, as described.

Also, mounting the frame which carries the two opposite gangs of instruments on a central axis so that it may be tilted thereon, substantially as described, in combination with the mode of connecting the ropes or chains with the said tilting frame, or the equivalent thereof, on opposite sides of the axis of vibration, as described, so that by reversing the pull on the ropes the frame shall be tilted to lift one gang out of action at the end of each course and draw down into action the other gang for the return course, as set forth.

No. 32,028.—BENJAMIN F. HOOPER, of Birmingham, Conn., assignor to ELI N. BALDWIN, of Huntington, Conn.—*Improved Machine for making Braces for Carriage Tops.*—Patent dated April 9, 1861.—This invention consists in making joints for the braces of carriage tops, &c., by means of a pair of clamping dies which gripe the bar of iron and hold it, while the end is forged and swaged into the form required by a series of traversing dies operated in succession for that purpose.

Claim.—The clamping dies, in combination with the swaging or shaping dies working in succession, substantially as described, for the purpose set forth.

No. 32,029.—CHESTER L. JOHNSON, of Little Falls, N. Y., assignor to ALLEN M. COLVER, of Albion, Mich.—*Improvement in Rotary Pumps.*—Patent dated April 9, 1861.—This invention consists in making the pistons or wings with curved sides thinner in the middle, combined with a cylinder eccentric to, but within the pump case, so that the said pistons passing through slots in the inner cylinder are tight within said slots but do not bind therein.

Claim.—The pistons H H, passing through the cylinder I, and revolving around a centre G, in the manner specified, when said pistons H H are formed thinner in the middle and with the curved sides, for the purposes and as specified.

No. 32,030.—GEORGE W. MARTIN, of Morrisania, N. Y., assignor to Himself and WILLIAM SHEPPARD, of Tremont, Pa.—*Improvement in Pumps.*—Patent dated April 9, 1861.—This invention consists in the combination of a vessel in which air is compressed, with pipes and valves arranged in such a manner that upon compressing the air in said vessel, which is effected by a valve operated by the foot, the water will be forced up and discharged, and then upon allowing the air to expand by means of a spring which forces up the valve the water will again be drawn into the pipe. The upper end of the reservoir is open, and deflectors are placed within it to prevent the water from being thrown out at the top.

Claim.—The pipes *b* and *c*, valves *n* and *o*, arranged as specified, in combination with the air-vessel *d* and piston *e*, for the purposes and as set forth.

Also, in combination therewith, the arrangement of the deflectors *l* and *m*, in the reservoir *h*, for the purposes specified.

No. 32,031.—ALVIN CHILDS MASON, of Springfield, Vt., assignor to Himself, H. H. MASON, and D. M. SMITH, of same place.—*Improvement in Hooks and Eyes.*—Patent dated April 9, 1861.—This invention consists in having the end of the snap or spring-guard bent so as to extend obliquely into a loop or opening in the hook, for the purpose of preventing the hook from catching against the end of the snap as it is disengaged.

Claim.—The forming of the snaps or spring-guards *c* with bent ends *d*, which extend into openings *e* in the hooks at the back of the bills, substantially as and for the purpose set forth.

No. 32,032.—JAMES H. MERRILL, of Baltimore, Md., assignor to MERRILL PATENT FIRE-ARM MANUFACTURING COMPANY, of same place.—*Improvement in Breech-Loading Fire-arms.*—Patent dated April 9, 1861.—This invention consists in not only having shoulders upon the main lever that lock in with shoulders on the gun casing, but also in having shoulders upon the levers themselves, which interlock when the gun is charged and discharged for the purpose of additionally bracing the breech-plug against recoil, which is thus broken or divided upon several points.

Claim.—The combination of the shou[illegible]ers upon the levers and upon the casing of the gun to take the recoil of the breech-plug up[illegible] instead of allowing it to come entirely upon the pivots, and for security against the spri[illegible]ng up of the lever, substantially as described.

No. 32,033.—JAMES H. MERRILL, of Baltimore, Md., assignor to MERRILL PATENT FIRE-ARM MANUFACTURING COMPANY, of same place.—*Improvement in Breech-Loading Fire-arms.*—Patent dated April 9, 1861.—The claim and engraving will explain the nature and object of this invention.

Claim.—First, in combination with the lever by which the breech is opened and closed, a projection upon or over which the hammer rests when down upon the nipple, to prevent said lever from rising or opening the breech accidentally, substantially as described.

Second, in combination with the lever by which the breech of the gun is opened and closed, a projection which extends under the cap when on the nipple, so that the raising of said lever preparatory to recharging the gun shall throw off the exploded cap and leave the nipple free for a fresh cap, substantially as described.

No. 32,034.—LANGDON SAWYER, of Springfield, Vt., assignor to Himself and A. M. BILLINGS, of Wethersfield, Vt.—*Improved Shade or Curtain Roller.*—Patent dated April 9, 1861.—The rod under which the netting or shade passes from a spring roller is made adjustable longitudinally, and to its ends are secured plates or brackets on which the spring roller has its bearings, so that the roller and bearing plates may be extended, and thus adapted to and secured within window frames of varying widths.

Claim.—Making the rod or roller G so that it can be extended or contracted longitudinally, when the same is combined with the other fixtures for operating the shade or netting, substantially as and for the purposes described.

No. 32,035.—JAMES O. WHITCOMB, of New York, N. Y., assignor to Himself and JOSEPH DODIN, of same place.—*Improvement in Hemmers for Hand-Sewing.*—Patent dated April 9, 1861.—This hemmer is composed of two plates and a flexible strap, one plate being attached to the other, which is of such a form that, by aid of the strap placed on the thumb, it may be held in the left hand so that the cloth to be hemmed may be worked freely through it by that hand to effect the folding of the hem, as fast as the stitching is proceeded with, by the needle used in the right hand.

Claim.—First, the plate A, with its rest *e*, tongue *c*, and thumb-strap B, for holding the folder C, and supporting the fabric while the hem is folded, substantially as described.

Second, providing an opening *i i* in the scroll of the folder for the admission of the end of the thumb, substantially as and for the purpose specified.

No. 32,036.—HUNTER DAVIDSON, of United States Navy.—*Improved Hook for Attaching and Detaching Boats from their Darits.*—Patent dated April 9, 1861.—The catch is made to fall back to its place, after the ring has passed its upper end, by the weight of its lower end. The strap is designed for a bolt to pass through it and the breast-hook of the boat, so as to prevent too great a strain upon the lower bolts.

Claim.—The catch C, the strap S, and the particular form of hook which permits it to be fitted to the boat's stem or stern post, so as to agree exactly with their usual outlines, the whole combined and arranged as described.

No. 32,037.—JOSEPH D. ALVORD, of Bridgeport, Conn.—*Improvement in Binder-Guides for Sewing Machines.*—Patent dated April 16, 1861.—This invention is designed to facilitate the setting of the guide-lips, and it consists in combining the guide-lips with a stock, which is separate from the stock of the binding-turner, so that all the lips may be set at one operation to operate upon binding of any width; or all the guide-lips may be permitted to retain their position in reference to the needle, while the binding-turner is set at one operation in a proper position, with reference to all the guide-lips, to turn binding of any width. The invention also consists in combining the guide-lips with a presser-foot by means of one common stock, so that all that is necessary to apply the binder-guide to the sewing machine is to displace the usual presser-foot of the machine and the plain guide, and apply the binder-guide in place of the latter, with the certainty of having the guide-lips and binding-turner in their positions in reference to the needle and acting presser-foot, which is then the supplementary presser-foot of the binder-guide.

Claim.—The combination of the guide-lips of a binder-guide with a common stock that is separate from the stock of the binding-turner, so that the lips need not be separately adjusted when the instrument is to be set to apply binding of a different width to an article to be bound, substantially as set forth.

Also, the combination of the stock of the guide-lips of a binder-guide with a presser-foot which is independent of that of the sewing machine to which the binder-guide is to be applied, substantially as set forth.

No. 32,038.—JAMES ARMSTRONG, of Dobbinsville, N. C.—*Improvement in Operating Pumps.*—Patent dated April 16, 1861.—The pumps are operated by a person sitting in a chair attached to a pendulum bar. The foot of the person striking a stop bar causes a backward movement, which is limited by the action of a coiled spring attached to the fulcrum of the pendulum and the frame.

Claim.—The combination of a pendulum A and chair F, spiral spring B, and stop-rod G, with a lever or levers J J A', and two or more pumps, arranged and operating substantially as and for the purposes set forth.

No. 32,039.—JOHN R. ARMSTRONG, of Kendallsville, Ind.—*Improvement in Steam Engines.*—Patent dated April 16, 1861.—The steam cylinder is of oblong quadrangular form, having three sides of its body made of a single casing. The piston rods are arranged one near each of the two narrow sides of the cylinder, and have secured to them the slotted cross-head, which is worked by a crank-wrist on the wrist-plate. To the crank-wrist is attached an eccentric wrist for the purpose of working a slide valve arranged in a chest attached to the cylinder for admitting steam alternately above and below the piston.

Claim.—The arrangement of the piston rods *d d*, and piston D, with the slotted cross-head E, wrist-plate H, wrists *e h*, valve-rod *i*, and oblong steam cylinder A, all as shown and described for the purposes set forth.

No. 32,040.—F. M. BACON, of Ripon, Wis., and JOSEPH FOWLER, of Hartland, Wis.—*Improvement in Seeding Machines.*—Patent dated April 16, 1861.—To the lower part of the seed box near each end are attached troughs, in one of which is the bearing of a shaft. On this shaft are two wheels rotating within the troughs, each wheel having in it a slot, and in each slot the outer side of a seed cup is fitted and allowed to slide freely. The back parts of the cups are attached to a circular plate secured by screws passing through a slot in the plate, by which means it may be adjusted, and the capacity of the cup be increased or diminished as required. To the ends of the troughs is attached a seed-scattering board grooved on its inner surface, and on the upper parts of the troughs, in front of the wheels, are placed double inclined blocks, serving to deflect the seed upon the scattering board. In the rear of the main axle is a shaft upon which is a series of short bars connecting with the bars that carry the covering teeth, so arranged as to allow an independent motion to each of the latter, and at the same time, by means of a lever under control of the driver, they can all be raised from the ground at once. An adjusting plate, provided with holes into which pins are passed, serves to regulate the depth of the teeth in the ground.

Claim.—The arrangement of the graduated adjustable plates K with the tangentially moving seed-cups J, and wheels I, substantially as shown and described, whereby, by moving the said plates K, all the cups will be simultaneously adjusted and regulated, as set forth.

Also, the arrangement with the seed-wheels I I, and troughs D D, of the self-adjusting step-like suspended seed-scattering board L, inclined board N, and blocks M, the whole constructed and shown and described for the purposes set forth.

Also, the arrangement of the adjusting plates U, bars P W, teeth *g*, and shaft Q, with the lever X, swinging bars R, shaft T, and frame A, all in the manner and for the purposes shown and described.

No. 32,041.—JAMES BAIN and S. C. BROWN, of Richmond, Ind.—*Improved Tenoning Machine.*—Patent dated April 16, 1861.—This machine is designed for forming panels for doors and cutting rebates in doors, blinds, &c. Upon a shaft, placed transversely on the frame, are secured two circular cutter-heads, in each of which is a radial slot. The outer sides of the cutter-heads adjoining the slots are bevelled to form throats for angular cutters, which are secured in an oblique position at one side of the slots. Hinged to the rear end of the frame is a slotted table or bed to allow the cutter-heads to pass through it, and secured to the tab e is an adjustable gauge. Projecting at right angles from the upper ends of rods secured to the table are guides formed of two elastic metal strips for keeping the stuff against the gauge.

Claim.—The employment or use of one or two rotary cutter-heads C, provided with bent or angular cutters D D, as shown in connexion with the bed or table E, provided with the gauge F, and guides G G, all being arranged to operate as and for the purpose set forth.

No. 32,042.—G. N. BRONSON, of New Milford, Conn.—*Improvement in Felting Machines.*—Patent dated April 16, 1861.—Upon a shaft placed at the upper end of a frame are two pairs of cranks, one pair having an opposite position to the other. Attached to these cranks are arms connected at their lower ends by cross-bars, and to the outer ends of arms on the cranks of the shaft is attached a lever frame, having a cross-bar *f* secured to it, and provided with a bevelled edge. Across the lower part of the machine is an adjustable stock or bar. The substance to be felted is placed between the stock and the bars, two of which have a horizontal reciprocating and the other a vertical reciprocating movement, by which means the substance is compressed, and at the same time receives a rotating movement.

Claim.—The adjustable stock G, in connexion with the reciprocating bars C D, when arranged for joint operation, as and for the purpose set forth.

No. 32,043.—JAMES C. BUTTERWORTH, of Providence, R. I.—*Improved Sash Fastener.*—Patent dated April 16, 1861.—The plate, which is attached to the side of the sash, is provided with two projections, one on each side, through which passes the shaft of a cam, having attached to it a hand-lever by which it can be turned. A spring is secured upon the back of the plate, the free end of which acts upon the under side of the cam. A hole is made in the plate through which a pin upon the spring passes, which fits into a corresponding recess in the window-frame. On turning the lever the cam presses the spring back, and thus allows the window to be raised. After the window is raised, on releasing the lever the spring presses the face of the cam against the window-frame, thus securing it by friction. The cam is recessed, a friction-pad of India-rubber being held firmly by the projections on the cam. A recess in the frame receives the cam when the window is down.

Claim.—The combination of the cam, recessed and furnished with the friction-pad, substantially as described, with the plate and spring, for the purposes set forth.

No. 32,044.—SAMUEL and R. W. CALDWELL, of Chillicothe, O.—*Improvement in Cider Mills.*—Patent dated April 16, 1861.—The concave block is situated above the cylinders, its ends being attached to the sides of the hopper so as to allow of its adjustment in a vertical plane, and the crushing will be performed faster or slower in proportion as the concave is raised or depressed. One cylinder can be removed, and by depressing the concave, so as to bring one of its sides opposite the other cylinder, the machine can be converted to a single mill.

Claim.—The combination of the adjustable spiked concave block K, with a single adjustable spirally-spiked and grooved cylinder G′, in the manner and for the purpose shown and described.

Second, the combination of the adjustable spirally-grooved and spiked cylinders G G′ with each other, and with the adjustable spiked concave block K, in the manner and for the purpose shown and described.

No. 32,045.—ADAM CARR, of Paterson, N. J.—*Improved Low Water Alarm for Steam-Boilers.*—Patent dated April 16, 1861.—Into a nipple secured to the steam-boiler is screwed a gauge-pipe and an expansion-pipe. The nipple is provided with an opening below its point of insertion in the boiler, passing through and connecting with a supply-pipe, by which steam is communicated to operate the whistle. On the top of the expansion-pipe is secured a cross-piece having a partition in it, serving to divide the expansion-pipe from the whistle supply-pipe, and having an air-chamber upon it which connects with the expansion-pipe. To the

top of the cross-piece is secured a whistle, which is operated by means of a lever actuated by a rod inserted at one end in the whistle supply-pipe, the latter being caused to expand by the increased temperature consequent upon the water falling below the mouth of the gauge-pipe.

Claim.—First, the nipple A A, provided with the aperture D, into which the gauge-pipe C′, expansion-pipe C, and supply-pipe E E, are inserted and connected with boiler *b*, arranged and operated as set forth.

Second, the cross F, constructed as described, in combination with the expansion-pipe C, and the supply-pipe E, for the purpose set forth.

No. 32,046.—JOHN CASWELL, of Syracuse, N. Y.—*Improvement in Brick Machines.*—Patent dated April 16, 1861.—The invention consists in combining with the extension plate pistons, patented by S. Ustick on the 27th day of April, 1858, peculiarly formed movable moulds, consisting of transverse plates connected together at a distance equal to the thickness of a brick, operating so as to pass over the clay while it is being pressed between the stationary and movable pistons, and thus cause the clay to be exposed to pressure in every direction. At the same time the air, forced through the clay by the gradual pressure of the same coming against the smooth inner surfaces of the moulds, will be discharged therefrom.

Claim.—Combining with the extension plate pistons movable moulds, continuously operating as described for expelling the air from the clay during the operation of pressing the same, and preventing it from concentrating in the central portion of the clay lying immediately between the extension plates of the stationary and movable pistons, as set forth.

No. 32,047.—JOHN CASWELL, of Syracuse, N. Y.—*Improvement in Brick Machines.*—Patent dated April 16, 1861.—The invention relates to that class of brick machines designed for making bricks of dry clay, through the agency of an extraordinary pressure exerted thereon, and consists in constructing the frame of the machine so as to give it the necessary strength and firmness to resist the heavy strain and pressure to which it is subjected, providing it with the necessary bearings to give precision to the movement of the pistons and moulds, forming, arranging, and securing the moulds within the frame in such a manner, and causing them to move in such relation to the movements of the extension-plate pistons whilst pressing the clay, as to entirely expel the air therefrom, and in providing a combination of parts for lifting the bricks from the moulds and placing them between the automatic grasp of upright springs and standards, which convey them over the pistons and gently lay them on the upper surface of the same.

Claim.—First, making the frame of the machine in one rectangular piece, consisting of the sides and ends A, and the cross-tie B within it, to which the stationary pistons C are secured, and provided with the bearings at its sides, upon which the movable piston-frame E and moulds bear their entire length during the whole extent of their reciprocating movements, substantially as described.

Second, expelling the air from the clay during the operation of pressing the same, and after the mould is closed, by means of the movable moulds K K3, constructed, arranged, and operating as set forth.

Third, the combination and arrangement of the right-angled slotted levers T, connected together at top, sliding lifting-platens S′, having pins or studs S2 at their lower ends, which enter the slots of the said levers T at the proper intervals of time, and horizontal sliding cross-bar V, having anti-friction rollers on its ends which enter the grooves W in the cog-wheels on the main shaft, for lifting or discharging the bricks from the moulds and pressing them between the upright springs Y and standard X, substantially as described.

Fourth, suspending the frames in which the sliding platens S′ are secured in horizontal guides Q, below the moulds, for enabling their movements to be arrested by the ends of the stop-bar *a* coming in contact with them during the upward and downward movements of the lifting platens, as before described.

Fifth, the employment of the upright springs Y and standards X on the sides of the sliding platen frame, for holding the bricks suspended on a plane sufficiently far above the pistons to clear them, and the cam-bars Z, for releasing the hold of the springs and causing the bricks to drop on the upper surface of the pistons, as set forth.

No. 32,048.—C. A. CLARK, of Pulaski, Iowa.—*Improvement in Valves for Pumps.*—Patent dated April 19, 1861.—This invention consists in the use of loose valves, perforated near their edges, situated in the upper and lower ends of the cylinder, and held in proximity to their seats by transverse rods. As the hollow piston is moved up and down the valves operate to close alternately the ingress apertures in the ends of the cylinders, so that the water is forced into the pistons through the apertures in the hollow piston-rod near its end, and in communication with it.

Claim.—The loose perforated valves F F′ operating in connexion with the apertures *b b′* and rods G G′ as and for the purpose set forth.

No. 32,049.—SAMUEL CLEGG, of Putney, England.—*Improvement in Gas-Meters.*—Patented in England April 22, 1851.—Patent dated April 16, 1861.—The measuring chambers, which pass nearly halfway around the periphery of the drum, are open at both ends, one end of each chamber communicating with the unmeasured gas in the central space of the

drum, and the other end opening outside of the drum and discharging the measured gas into the casing surrounding the drum. Attached to the drum is a float, the bearing of the drum being carried by levers, turning on suitable centres, to admit of its floating. The levers which carry the axis of the drum are continued beyond their centres, and attached to their ends is an inverted cup, open at the bottom, into which the unmeasured gas is led by a pipe passing up into it.

Claim.—First, the method of constructing the drum with measuring chambers at the periphery, arranged substantially as described.

Second, the arranging the drum of a gas-meter, substantially as described, so that it may rise and fall with the water in the meter by floating thereon.

Third, the use of a cup or vessel *h*, arranged substantially as described, that is to say, supplied with gas of the same pressure as that in the drum, and so connected therewith as to balance it and keep the water-line within the drum constant, whatever may be the variations in the pressure of the measured gas.

No. 32,050.—HENRY A. CLUM, of Auburn, N. Y.—*Improved Barometer.*—Patent dated April 16, 1861.—Within the tube, which is of larger size than usual, is placed a shaft, which serves, by the displacement of mercury, to buoy up the auxiliary chambers on the outside, to which this shaft and buoy are connected by projecting and upright arms. The auxiliary chambers being large and light, and easily influenced by atmospheric pressure, are designed to aid the motions of the mercurial column in the tube. By means of a controlling rod and rack-work the upward and downward motion of the floating apparatus is communicated to the dial. The unequal action of the mercury in the cistern upon the upright arms is compensated by a lever and plunger, attached to each arm when required. In lieu of the shaft, a small rod may be made to pass through the tube, which is then contracted through its lower portion, to which rod is attached a buoy, which floats on the surface of the mercury and keeps the auxiliary chambers in suspension.

Claim.—First, the use of the auxiliary chambers C (one or more) in the construction of barometers, as set forth and described in Figs. 1 and 2 in drawing and specification.

Second, the buoy and shaft D and N, Fig. 2, and the manner in which they are employed, as set forth in drawing and specification.

Third, the connexion of the auxiliary chambers to the shaft N and buoy D, shown at S S and J J, Fig. 2.

Fourth, the compensating lever and plunger for equalizing the action of the mercury upon the upright arms in the cistern, as shown at U V W, Fig. 2.

Fifth, the manner of communicating the motion of the floating apparatus to the hand H, as shown at R, Fig. 2, and F, Fig. 1.

Sixth, the reading of pounds and fractions of pounds, in combination with the usual inches and fractions upon a circular dial.

Seventh, the tube B, composed of two or more sections and their combination, as shown at O, Fig. 2, and explained in specification.

Eighth, the combination of the auxiliary chambers C C with the shaft N and buoy D, the rack-work R, and their connexions, as shown at P P M J J and S S, Fig. 2, and their united use with the mercurial column.

No. 32,051.—LOUGHLIN CONROY, of New York, N. Y.—*Improvement in Street-sweeping Machines.*—Patent dated April 16, 1861.—This invention consists in the use of an endless sweeping apron, formed of brushes, scrapers, or rakes, connected together by links and applied to a mounted box or wagon in such a way as to admit of being adjusted above the surface of the street and remain stationary when not required for use, and also to admit of being so adjusted as to be brought in contact with the surface of the street, and operated so as to sweep up the dirt therefrom and conform to the inequalities of the surface of the street. Pressure-rollers are arranged and applied to the sweeping apron, to insure its proper action on the surface of the street.

Claim.—First, the endless sweeping apron Q, when formed of brushes R, rakes S, scrapers T, any one of said parts being used, or all of them combined and connected together by links *j*, or an equivalent universal joint attachment, for the purpose of rendering the apron flexible, so that it may conform to the inequalities of the surface of the street, as set forth.

Second, in combination with the sweeping apron Q the pressure-rollers U, applied and arranged to operate as and for the purpose set forth.

Third, the arrangement, substantially as shown, of the sector-plates M M, inclined plane L, and slides G G, on which the cylinder E is placed, whereby the apron may be raised and lowered, as set forth.

No. 32,052.—GEORGE W. COOPER, of Palmyra, Ga.—*Improvement in Ploughs.*—Patent dated April 16, 1861.—The plough-beam consists of a flat steel bar, on each side of which are secured curved bars. The standard consists of two bars, pivoted at their lower ends to a curved bar, provided at its rear part with a series of holes and secured to the rear end of the beam by a bolt, by means of which the bar can be adjusted, and the share be set to plough more or less deep.

Claim.—The arrangement of the curved adjustable bar E and the swinging standard D D, with the curved bars B B and beam A, all as shown and described, for the purpose set forth.

No. 32,053.—JOHN S. DAVISON, of Cranberry, N. J.—*Improvement in Faucets.*—Patent dated April 16, 1861.—The object of this invention is to adapt an instrument so that the liquid or steam can in no way escape except when necessary. This object is obtained by applying a plunger or double acting cut-off to the interior of the faucet, the chambers being so constructed and arranged that the pressure of the liquid or steam against the cut-off, in connexion with the spring or screw, keeps it perfectly tight and compact.

Claim.—The arrangement of valves *h* and I, as shown in Fig. 5, together with the chambers D and L and valve-rod and springs, as set forth and described.

No. 32,054.—WILLIAM DECKMANN, of Canton, Ohio.—*Improvement in Hay Rakes.*—Patent dated April 16, 1861.—The driving-wheel, which is placed in front of the rake teeth, is provided with cogs upon its axis. Upon the axle of the driving-wheel slides a clutch provided with pins, upon which runs an endless chain operating a wheel secured to the rake-beam. By means of a lever, the clutch is made to throw the driving-wheel in or out of gear with the rake, and by means of two levers, secured to a rod across the front part of the frame, the latter is elevated from the ground, and the rake is put in operation. By operating the levers the rake-beam is caused to rotate, and the hay deposited in a heap.

Claim.—The employment of driving-wheel D and its accompanying mechanism, in combination with levers K and *i i*, on rod *h*, all arranged as and for the purpose specified.

No. 32,005.—LEWIS EIKENBERRY, of Philadelphia, Pa.—*Improved Valve Arrangement.*—Patent dated April 16, 1861.—Fitted loosely on the shaft is a short tubular shifter, being so set as to have its sides run diagonally or obliquely to the shaft, and having a slot cut through its circumference, in order to allow one or more pins, projecting from the circumference of the strap, to pass through it. Over the tubular shifter is fitted loosely an eccentric, secured against rotary but not longitudinal motion by means of a feather on the tubular shifter, entering a groove in the eye of the eccentric. On the shaft is arranged a ball-governor and spring, the latter being connected to one end of the tubular shifter, the other end being connected to the sliding collar of the governor, for the purpose of regulating the speed of the engine.

Claim.—First, effecting a connexion between the sliding diagonally set tubular shifter E, crank-shaft A, and the eccentric C, by means of an oblong slot cut through the tubular shifter, one or more guide-pins *b b* projecting from the shaft through the slot, substantially as and for the purpose set forth.

Second, the combination of a governor D, or a governor and spring, with a diagonally set tubular shifter E, constructed and operating as described, and a shaft A, substantially as and for the purposes set forth.

No. 32,056.—JAMES M. FOY, of Fountain Green, Ill.—*Improvement in Corn Planters.*—Patent dated April 16, 1861.—Upon the shaft of the traction-wheel is a clutch-wheel, which rotates with the shaft, and has a lateral motion on it. The dropping-wheel Q is on the same shaft, but has an independent rotatory and lateral motion. This hub of this wheel gears with the clutch, and has on its periphery ratchet teeth which gear with the ratchet teeth on the sickle-shaped bar P. This bar is connected with a lever in reach of the driver, and by this means the dropping-wheel is controlled by him. Each rotation of the dropping-wheel operates the seed valve, a projection upon the edge of these wheels coming against the pallet lever, which is connected to the valves. The forked lever fits over the ratchet disk, and thus enables the driver to move the dropping-wheel out of connexion with the pallet lever when it is desired to move the machine without operating the seed valves.

Claim.—First, the combination and arrangement of the sickle-shaped bar P, lever V, ratchet teeth *f*, and dropping-wheel Q, as and for the purposes set forth.

Second, the arrangement of the dropping-wheel Q, ratchet disk R, spiral spring *d*, shaft B, and forked lever W, in combination with the pallet lever M, in the manner and for the purposes set forth.

32,057.—RAYMOND FRENCH, of Seymour, Conn.—*Improvement in Joints for Railroad Cars.*—Patent dated April 16, 1861.—The object of this invention is to strengthen and unite the ends of rails where they meet, so as to prevent or lessen the jarring of the passing wheels.

Claim.—Strengthening the joints of railroad rails by heating and shrinking the chair on to the joints, substantially as described.

No. 32,058.—SAMUEL FULTON, of Conshohocken, Pa.—*Improvement in Moulds for Casting Pipe.*—Patent dated April 16, 1861.—The iron pattern is fitted concentrically with the flask, the space between the pattern and flask corresponding to the thickness of the sand mould. Over the pattern is fitted a cylinder which is allowed to freely rise and fall thereon. Attached to the outer side of this cylinder are guides having pestles or rammers fitted in them and working in the space between the pattern and flask. The rammers are elevated by means of a cam which rotates with the shaft, and fall by their own gravity. As the shaft rotates it

rises, owing to the screw thread cut on its upper part, which works in a nut fitted in a cross piece in the framing.

Claim.—The pattern B, cylinder D, and rammers E, placed within a suitable flask A, and arranged with a screw-shaft H, to operate substantially as and for the purpose set forth.

No. 32,059.—GEORGE GOULDING, of Watertown, N. Y.—*Improvement in Spinning Machinery.*—Patent dated April 16, 1861.—R R are the drawing and delivering rollers. One of the rollers is pressed against the other by the spring R^4, which acts on the journals of the roller, and is provided with an adjusting screw to graduate the pressure of one roller against the other upon the sliver of fibrous material passing between the rollers. These rollers are provided with match gears at one end, to insure their turning with the same velocity, and one of them has the bevel gear S fastened to it, which is driven by the bevel gear S^1 on the shaft S^2, which turns in the stands S^3 fastened to the gear Q^1.

Claim.—The construction and arrangement of the shaft S^2, stand S^3, and pinion X^2, in combination with the gears that operate the rollers R R, as described.

No. 32,060.—SAMUEL FULTON, of Conshohocken, Pa.—*Improvement in Core Carriages.*—Patent dated April 16, 1861.—The object of this invention is to economize the casting or manufacturing of the smaller kinds of metal pipes, and it consists in the employment of a core carriage so arranged that the cores may be readily shifted within the oven and their position changed relatively with each other, so as to insure an even heating and drying of the whole number on the carriage.

Claim.—A core carriage provided with a revolving shaft C and wheels D D, arranged with hooks E, or their equivalents, to serve as bearings for the cores, all being arranged substantially as shown, to admit of the changing or shifting of the cores within the oven, as and for the purpose set forth.

No. 32,061.—LOUIS X. GARGAN, of Paris, France.—*Improved Feed-Water Apparatus for Steam-Boilers.*—Patent dated April 16, 1861.—The object of this invention is to keep the level of the water constantly the same, or nearly so, in steam generators, whether stationary or locomotive, without requiring the attendance of the engineer or fireman, so that the lowering of temperature and pressure in the boiler is avoided, valves are dispensed with, and economy of fuel as well as of motive-power is designed to be secured.

Claim.—The apparatus for feeding boilers, constructed and arranged substantially as shown and described, the same consisting of a hollow cylindrical or prismatical valve sliding within a correspondingly cylindrical or prismatical body provided with three independent channels that communicate, respectively, with a water and steam space in the boiler and the supply tank, as described, and are disposed in relation to the three ports in the valve so as to come, when in operation, in simultaneous juxtaposition with the steam and water channels while closing that of the supply channel, and *vice versa*, as set forth.

Also, the combination and arrangement of the feeding apparatus, as shown and described, the same consisting of a hollow plug with side openings, capable of rotation upon its axis, within a body provided with four channels, as described, so that the said openings shall come opposite to the steam and water channel, and the water supply and air or steam escape channels successively, as set forth.

No. 32,062.—GEORGE GATTY, of New York, N. Y.—*Improved Curtain Fixture.*—Patent dated April 16, 1861.—The toothed roller pulley has a grooved periphery, and is fitted loosely in a stationary axis or shaft secured to the bracket. Projecting from the inner side of the pulley, at its centre, is a tube that fits a metal disk, which is secured to one end of the roller, so that both will turn together. Attached to the bracket is a metal band which encompasses the pulley, and is toothed at its back so as to gear with the pulley, where it is held by a spring. In the lower part of the band are two rollers so arranged in relation to the pulley as to give the cord an inclined position at its upper part, and by pulling which the band will be pressed back and the shade rolled up or down.

Claim.—The toothed roller pulley A, with cord G placed on it, in combination with the adjustable band F, provided with teeth *e*, rollers *g g'*, and acted upon by a spring *f*, all arranged for joint operation, substantially as and for the purpose set forth.

No. 32,063.—JOEL HAAG and J. C. SMITH, of Bernville, Pa.—*Improvement in Water-Wheels.*—Patent dated April 16, 1861.—The inclined chutes are arranged in an annular form within a rim or cylinder directly over the end of the flume, so that the water will pass upward through the chutes. The buckets of the wheel are of concave spiral form, diminishing towards their upper ends; the water-guides are of the same form, but placed in a reverse position, so that the water may strike the buckets at right angles. Encompassing the cylinder of the water-chutes is an outer cylinder extending to the bottom of the flume, and upon this cylinder is a dome-shaped cap which covers the wheel. A space is left between the wheel and cap and between the cylinders, forming a draught tube for the free escape of the water.

Claim.—The combination of the inclined chutes or water-guides *a*, cylinder or rim *b*, concave spiral buckets *d*, dome-shaped cap E, flume A, annular draught way *f e*, the whole being constructed and arranged in the manner and for the purposes set forth.

No. 32,064.—WM. CLEAVELAND HICKS, of Boston, Mass.—*Improvement in Sewing-Machines.*—Patent dated April 16, 1861.—This invention relates to loosening and tightening the needle thread at different periods in the formation of each stitch between the spool and the seam being sewn, and it consists more particularly in an improvement upon the method of controlling the needle thread, for which a patent was granted to the said Hicks on November 8, 1859.

Claim.—First, the method, substantially as described, of controlling the needle thread in sewing-machines, by causing the controller during the whole of its ascent to act as a "take-up" to said thread, then leaving it suspended on a stationary independent rest, and afterward, and as the needle eye enters, or is about entering the cloth, casting off the needle thread so as to make it hang freely or loose during the concluding portion of the down stroke of the needle. This, in contradistinction to the drawing up of the needle thread only at the concluding part of the upward stroke of the needle as in the method previously patented to me, as referred to.

Second, the employment of an intermediary tension on the needle thread as the needle bar commences its descent, by a temporary relaxation in the tension, at said period, essentially as and for the purpose or purposes mentioned.

Third, the combination of a reciprocating take-up and cast-off to the needle thread, having a constant motion in unison with that of the needle bar, and stationary independent rest or support for the needle thread to retain it free from motion or action by the controller during the early portion of the downward stroke of the needle, essentially as specified.

Fourth, constructing the stationary independent rest and lifting saddle of the controller so that the needle thread, in being drawn up, will be urged away from or to one side of its perpendicular travel in line with the needle, and so that, on the moving portion of the controller completing its upward stroke, or thereabouts, the needle thread will spring and slide itself from off the lifting saddle on to the stationary rest, substantially as described.

Fifth, constructing the lifting saddle of the controller of greater width than the independent rest on which the thread is left suspended at the end of the upward stroke of the needle bar, for the purposes specified.

Sixth, providing the moving portion of the controller with an inclined plane at its one side, to act as a cast-off to the needle thread from off its independent rest, essentially as set forth.

No. 32,065.—DAVID HUMPHREYS, of Cincinnati, O.—*Improvement in Corn Planters.*—Patent dated April 16, 1861.—The bottom of the hopper is provided with a ventage or discharging duct leading into the seed tube. Upon the bottom of the hopper is a measuring slide containing a measuring aperture. Upon the measuring slide is a cut-off slide provided with a long slot rounded at one end. An intermittent sliding movement is given to the slides by means of a wrist on a rod connected with the wheel axle, and moving in slots in the bottom and slides.

Claim.—The arrangement of cut-off H *h h' h''* I, measuring slide G *g g'*, and ventage *d*, operated from a ground wheel B, in the manner and for the purposes set forth.

No. 32,066.—RENSALIER JADWIN, of Grafton, O.—*Improved Apparatus for Supplying Steam-Boilers with Water.*—Patent dated April 16, 1861.—This invention relates to an apparatus for supplying steam-boilers with water by means of the direct pressure of steam upon the surface of the water discharged into the boiler, simply by means of shifting sliding-valves acted upon automatically or by the engineer, the apparatus being so constructed that the water never can rise above a given line in the boiler, though kept constantly at work.

Claim.—The chambers A B, the pipes M N and L P, the passages *a b* and *a' b'*, with the pair of valves C D, in each chamber, the several parts being constructed, arranged, and operated in the manner and for the purpose set forth.

No. 32,067.—C. JOHNSTON, of Clarksville, Mo.—*Improvement in Shot Pouches.*—Patent dated April 16, 1861.—This invention consists in the combination of a single shot-receiving tube, with a double pouch and two valves, the shot-receiving tube sliding within a stationary tube provided with inclined planes. The device is designed to be attached to the person in such a manner as to keep the shot-charger vertical, and enable the gun to be charged while being held in a vertical position, by applying the muzzle of the gun to and pressing it against the lower end of the charger.

Claim.—First, the combination of a single shot-receiving tube O, with a double pouch G H G', and two valves A A', substantially as and for the purposes set forth.

Second, the combination of a shot-receiving tube O, sliding within a stationary tube N, and inclined planes I J, arranged in relation to each other, substantially as and for the purposes set forth.

Third, the combination of the plug I, having a screw-thread on one portion of its shank, and made square the remainder of its length, with the tubular knob 4, and tubes N O, substantially as and for the purpose set forth.

No. 32,068.—THOMAS KING, of West Farms, N. Y.—*Improvement in Power Looms.*—Patent dated April 16, 1861.—The shuttle driver consists of a slotted plate or bar attached to the lower race board of the lay by bolts passing through its slots. With the driver is con

nected a rocker by two cords, which are wound upon the latter in opposite directions. The rocker has also passing over and secured to it a strap, the ends of which are connected by strong and long spiral springs with two treadles, which are depressed alternately by means of two cams on the cam-shaft. A locking bar is provided for locking the shuttle driver at the termination of its stroke in either direction, till it is required to drive the shuttle in the opposite direction. Attached to the side of the loom next the free end of the locking bar is a fixed locking piece for the purpose of causing that bar to unlock the driver at the proper time to throw the shuttles in either direction.

Applied to one of the heads of the yarn beam V is a friction-band, one end of which is secured to a fixed rail, and the other has suspended from it a weight V2, by which the friction is produced. Rigidly secured to a rock shaft, arranged parallel with and above the yarn beam, is a lever X, to the front arm of which is secured a roller or shaft X1 parallel with the yarn beam, and from whose rear arm is suspended a weight X2 which produces a tension on the yarn between the yarn beam and the take-up, the weight being just sufficient to produce the tension desired in weaving.

Claim.—First, combining the shuttle driver O, with the treadles Q Q, by means of springs *g g'*, a strap *f*, a rocker P, and cords *c1 c2*, or their equivalents, the whole applied in connexion with each other, and in combination with a locking bar U, and unlocking piece *m*, to operate as and for the purpose specified.

Second, the lever X, with its roll or shaft X1, and weight X2, applied substantially as described, in connexion with the weight V2, on the friction band V1, of the yarn beam, and operating as set forth.

No. 32,069.—ANTHONY LAMB, of Cambridge, Mass.—*Improved Book Case.*—Patent dated April 16, 1861.—This invention consists of an arrangement of shelves and a hinged leaf supported upon a revolving table, in such a manner that books placed thereupon may be readily reached and referred to without the reader's rising from his seat.

Claim.—The described revolving bookcase, when the several parts are arranged and constructed in the manner and for the purpose set forth.

No. 32,070.—THOMAS J. LOWRY, of Conneautville, Pa.—*Improvement in Transmitting Power.*—Patent dated April 16, 1861.—The sliding platform rests with its fore wheels on the circular track, and with its hind wheels on the inclined track. The circular track is formed by a flange on the inside of two large wheels secured to an axle, to which it is intended to impart a rotary motion by the action of the platform. The fore wheels of the car or platform are intended to be rotated by any convenient motor.

Claim.—The arrangement of the sliding platform A, track E, and wheels D B, with the circular suspended track C, all in the manner and for the purposes shown and described.

No. 32,071.—GEORGE LULL, of Hardin, Iowa.—*Improvement in Grain Separators.*—Patent dated April 16, 1861.—The object of this device is to effect the separation of oats from wheat by the employment of one or more screens of corrugated metal plates having oblong or elliptical perforations through them between the corrugations.

Claim.—The screen or screens, constructed with a ribbed and channelled surface, and having elongated perforations through the bottom of the channels, substantially as and for the purposes described and shown.

No. 32,072.—CURTISS LUTHER, of Newbury, O.—*Improved Wheelwright's Machine.*—Patent dated April 16, 1861.—The hub is placed on a stand and secured in an upright position, having a dial plate attached to the lower end that serves as an index by which the hub is divided off into equal spaces. The holes are bored by a bit. The ends of the spokes are tenoned. After they are driven into the mortises in the hub, the bit being removed, and the tenoning tool being put in its place, the hub is adjusted on a stand by means of a slide to suit the length of the spokes.

Claim.—The special arrangement and combination of the several parts in the manner set forth, so that the various kinds of work in making carriage wheels, as boring the hub, tenoning the outer ends of the spokes after they are set, and boring the felloes, may all be performed upon the same machine, placed upon a common workbench, and operated by hand as specified.

No. 32,073.—HENRY F. MANN, of Laporte, Ind.—*Improvement in Ploughs.*—Patent dated April 16, 1861.—The handles of the plough are so constructed and arranged that, while one of them joins to the rear end of the beam, and the other to the under side of the mould-board, the lower ends of both unite or come so near each other that they may be fastened to the under side of the mould-board, at their extremities.

Claim.—Arranging the handles on the beam and mould-board of the plough, substantially in the manner described, so that they act as stays or braces to the standard, beam, and mould-board, and at the same time offer no obstruction to the dirt, weeds, &c., in rear of the standard, and above the land-side bar, as set forth.

No. 32,074.—BENJAMIN A. MASON, of Newport, R. I.—*Improvement in Splicing Rails for Railroads.*—Patent dated April 16, 1861.—This invention is explained by the claim and engraving.

Claim.—Splicing the sections of rails for railroads by slotting the ends thereof, substantially as described, in combination with the vertical splicing piece, with its elongated head fitted within the elongated portion of the slots, and resting on the shoulders thereof, and with its shank passing down through the residue of the slots and through the cross-ties, and secured below by a key, or its equivalent, substantially as specified.

No. 32,075.—ALEXANDER MILLAR, of New York, N. Y.—*Improvement in Cork Machines.*—Patent dated April 16, 1861.—The object of this invention is to cut from square blanks the common pot-corks, bungs, &c., and the invention consists in pivoting the "holder" to the lower end of a rod, which passes vertically through the centre of the tapering guide-block and through the stock of the cutter, and through the spindle or shaft which rotates the cutter-stock. In conjunction with said rod is an adjustable nut and spring arm, for giving the requisite degree of pressure to the work during the operation of the cutters in forming the cork. On the outside of, and at suitable points on the knife-bars, are formed rack-teeth, and for each knife-bar a spring is employed capable of receiving a lateral adjustment, and having a tooth at its lower end which engages with teeth on the knife-bar, and confines said bar securely in its place against the tapering edge of the guide-block, and allows the knife-bar to move downward to compensate for the wearing away of the knife. The table or bed on which the work is placed is operated by means of a system of levers jointed to a vertical bar, on which the table is mounted, in combination with adjustable collars placed on the vertical table bar, and used to regulate the vertical movement of the table.

Claim.—First, the combination of the rod *d*, hollow cutter-stock *c*, hollow spindle *b*, adjustable collar *g*, pivoted arm H, and spring I, the said parts being constructed and arranged in the manner and for the purposes shown and explained.

Second, the adjustable knife-springs J J, with the rack-teeth *j* on the knife-bars *i i*, when said springs are constructed and applied to the cutter-stock, as described, for the purpose set forth.

Third, the combination of the treadle P, spring S, connecting rod N′, lever N, jointed arms *s s*, bar K, adjustable collars *n n′*, and fixed bearings K′, all constructed, arranged, and operating substantially as and for the purposes specified.

No. 32,076.—JAMES MILLHOLLAND, of Reading, Pa.—*Improvement in Furnaces for Steam-Boilers.*—Patent dated April 16, 1861.—This invention consists in placing the tubes which constitute the grate-bars in such a position with reference to each other as to bring them into lateral contact with the fuel, so as to receive thereby a greater amount of heat from the fuel resting upon them. The pipes are inclined at one end, so as to cause a circulation of the water through them.

Claim.—First, the zig-zag order of placing the tubes for the purpose of receiving, by lateral contact with the fuel, a more perfect transmission of the heat to the water within them, substantially as described.

Second, the zig-zag order of the tubes, in combination with their inclined position, for the joint purpose of procuring a more perfect transmission of the heat to the water within the tubes, and the circulation of the water through the tubes, substantially as described.

No. 32,077.—WILLIAM MORRISSON, of Chadd's Ford, Pa.—*Improvement in Cultivator-Teeth.*—Patent dated April 16, 1861.—This invention is explained by the claim and engraving.

Claim.—A cultivator-tooth, having a sharp front edge, flaring sides, and a diamond or arrow-shaped opening at its top, to receive a similarly shaped shank, by which it is united to the cultivator-frame, substantially as described.

No. 32,078.—GEORGE W. NEVILL, of Bath, Ill.—*Improvement in Seed-Drills.*—Patent dated April 16, 1861.—The wheels C are made with bevelled edges tipped with steel, to make indentures in the ground, into which the grain is dropped. The wheels E are provided with spurs on their peripheries, and are so situated that a portion of their outer surface moves through openings in the hopper and agitates the grain, causing it to pass through openings, whence it falls into the conveyors. In the rear of the conveyors are shoes provided with plates at their sides which cover the grain, the heel of the shoe pressing the soil down upon the same.

Claim.—The wheels C and the wheels E, being fixed upon shafts, hopper B, conveyors D, and shoes F, the whole arranged and operating as set forth.

No. 32,079.—ADAM NEWKUMET, of Philadelphia, Pa.—*Improvement in Drain-Tiles.*—Patent dated April 16, 1861.—The object of this invention is to facilitate the moulding of tubular drain-tiles, and to prevent their warping during the process of baking.

Claim.—A tubular or cylindrical drain-tile, formed of two longitudinal and separate parts A B, provided with ribs *a*, and fitted together as shown, for the purposes set forth.

No. 32,080.—ADAM PRITZ, of Dayton, O.—*Improvement in Harvesters.*—Patent dated April 16, 1861.—This invention is designed to facilitate the operation of raising and lowering the cutting apparatus, &c., from the stubble and grain sides of the harvester. By passing the detachable crank-shaped key through the holes in the centre of the revolving pinions, and between the arms of the master or driving-wheel, and throwing back the pawls, the part of the frame supported on the driving-wheel can be raised to any desirable height by simply turning the key. After the adjustment has been made, the pawl J, being thrown into gear with the ratchet, will prevent the part A of the frame from again descending,

Claim.—First, the employment of a detachable crank-shaped key N, in combination with two adjustable curved toothed bearings G G, two curved slotted guide-boxes E E, two revolving pinions H H, one or more ratchet wheels I, one or more stop pawls J, the harvester frame A, and the master or driving-wheel B, substantially as and for the purposes set forth.

Second, providing the detachable crank-shaped key N with the ratchet wheel O, to operate in combination with the pawl M, on one of the slotted guide-boxes E of the master-wheel B, and on the guide-box F of the grain-wheel D, substantially as and for the purpose set forth.

No. 32,081.—WILLIAM RESOR, of Cincinnati, O.—*Improvement in Cooking Stoves.*—Patent dated April 16, 1861.—This invention is designed as an improvement on a stove for which a patent was granted to N. S. Vedder, March 6, 1860, and consists in certain additions to the fire-box, for the purpose of promoting the combustion centrally therein and causing a more equal distribution of the heat above and around the oven.

Claim.—In combination with the fire-box A and vertical flues *a* and *b*, arranged with reference to the oven C, as described, whereby the heated currents are divided over the oven and conducted separately around the same, in the manner set forth, extending a close hearth plate from the front end of the fire-box into the same to a point near the centre thereof, whereby the air for combustion is supplied at or near the centre of the fire-box, and the heat is caused to be distributed more equally above and around the front and rear end of the oven, substantially as set forth.

No. 32,082.—GEORGE W. RICE, of Demopolis, Ala.—*Improvement in Cotton Cultivators.*—Patent dated April 16, 1861.—The shares or scrapers are connected to a screw rod attached to the beam by rods, the hooked ends of which catch in notches in the scrapers; and at their centres are attached metal bars, bent so as to pass over the rows of growing cotton and allow the shares to operate at each side of the row.

Claim.—The arrangement in the peculiarly-framed scrapers E E and U-shaped bars D D with each other and with the standard C, brace rods F F, adjusting rod G, and beam A, all as shown and described, for the purposes set forth.

No. 32,083.—EDWARD J. RICHMOND and THOMAS WRIGHT, of New York, N. Y.—*Improved Stable Broom.*—Patent dated April 16, 1861.—The inner splints, which form the greater portion or mass of the broom, are of twice the usual length, and each length is doubled so as to form two splints; they are firmly bound at their centres to the handle by a wire, the outer parts of the lengths being bent over the wire.

Claim.—As an improved article of manufacture, a splint broom, made in the peculiar manner shown and described, with doubled or looped inner splints B′, and inner binding wire C, as set forth.

No. 32,084.—POWERS RITCHEY, of Hamilton, Ill.—*Improvement in Corn Planters.*—Patent dated April 16, 1861.—The runners are turned up at their front ends and are connected together by a transverse bar in front and a transverse seat near their rear ends. Near the middle and on the inside of the length of each runner is a space, behind which a portion of the runner is curved up obliquely, so as to throw all clods of earth and trash between the runners, and leave the track free from obstructions. To the front part of the runners are pivoted shoes or openers, for opening the furrows, consisting of narrow pieces of wood having their lower edges curved, and extending back through horizontal slots in the runners, and made adjustable vertically at their rear ends. The shoes are attached to the sides of the seed boxes by pins. The slides of the seed boxes receive a reciprocating motion by means of levers in connexion with the front horizontal bar. Projecting from the bottom of the runners are pins, which serve to press the earth over and cover the corn.

Claim.—The arrangement of the curved runners A A, adjustable pivoted openers D D, and presses K K, with each other and with the seed-boxes C C, slides *h*, and levers H H, all as shown and described, for the purposes set forth.

No. 32,085.—CYRUS ROBERTS, of Belleville, Ill.—*Improvement in Machines for Threshing and Separating Grain.*—Patent dated April 16, 1861.—The grated feed board receives the sheaf of grain, and the loose kernels passing through the perforations are received upon the inclined conveying board, whence they are delivered upon the bottom of the rear section of the conveyor and separator without passing through the threshing apparatus. Upon the surface of the concave are diverging grooves to beat the grain against and to distribute the grain more evenly upon the inclined plate in front, which latter is also provided with diverging grooves, formed by ribs, to divide and distribute the mass of straw passing to the fingers.

The conveyor and separator are formed in two sections, to which opposite and simultaneous vibrating motions are given, by means of two connecting rods attached to a double crank on a shaft below. Overlapping the openings between the sections are arranged shaking fingers, for separating the straw and grain. The fingers *j* are attached at their rear ends to a diaphragm or false bottom *d'*, which forms a part of, and vibrates with, the rear section of the conveyor. Beneath the diaphragm and fingers is left a space, in which the grain is carried forward over the shaft of the next series of shaking fingers. In connexion with a screen placed in a reversible discharging spout is a trap, to prevent the unseparated grain and foreign substances from mixing with the cleaned wheat which has passed through the screen along the inclined bottom of the spout.

Claim.—First, the combination of the grated feed board *a* and inclined conveying board *c* of the thrasher with the vibrating conveyor, substantially as specified.

Second, constructing the concave with diverging distributing grooves, substantially as described.

Third, the combination with grooves in the concave of supplemental distributing grooves in front of the concave, substantially as described.

Fourth, constructing the separator in sections having opposite simultaneous vibrating motion in combination with shaking fingers overlapping the opening between the sections, substantially as described.

Fifth, the method of separating the grain from the straw by drawing out and attenuating, and at the same time shaking, by means of lifting fingers, the mass of mixed straw, grain, and chaff over the openings between the sections of the separator, substantially as described.

Sixth, the diaphragm *d'*, the fingers *j* above, the space *d''* and bottom *d* below, in combination, substantially as described.

Seventh, the combination with a vibrating conveyor and separator of fine vibrating fingers over the throat of the conveyor, and coarse vibrating and shaking fingers above the finer ones, the coarse fingers shaking up the straw and making a coarse separation, and the finer fingers making it finer and more complete, thereby facilitating the winnowing.

Eighth, the combination of the head trap *z'* with a wheat screen *z*, acting together, substantially as described.

No. 32,086.—THOMAS SERVICE, of Utica, Pa.—*Improvement in Wagon Locks.*—Patent dated April 16, 1861.—Bolted on the hounds is a plate of iron, with a similar plate below, so constructed that the reach D will slide between them to the extent of the length of the slot in the reach, through which a bolt passes. In an eye-bolt in the axle is hung a bar of iron W, connected with the chain and eye-bolt in the end of the reach, so that when the reach is drawn forward up a hill the lock-bar will drag on the ground, and when the wagon stops on a hill the lower end will catch in the ground and prevent the wagon from running back.

Claim.—The stop-bar W, in combination with the sliding reach D, both constructed as described and operating together, for the purposes set forth.

No. 32,087.—EDWIN SMITH, of Naugatuck, Conn.—*Improvement in Suspender Buttons.*—Patent dated April 16, 1861.—This invention is explained by the claim and engraving.

Claim.—A button formed by the combination of the sheet-metal shell A B with the solid centre piece *a*, when the parts are so connected that the shell may be freely revolved on or around the centre piece when attached to the cloth, the whole being constructed and fitted to operate substantially as described.

No. 32,088.—SAMUEL J. SMITH, of New York, N. Y.—*Improvement in Eyelet Machines.*—Patent dated April 16, 1861.—This invention consists in an arrangement of a percussion die or cutter, constructed in a cylindrical form, and applied in such a manner that the die or cutter is free to turn around while in use, instead of constantly wearing in one direction and becoming untrue, as in the ordinary use of a lever. A perforated ball slides upon the circular stock of the die or cutter, so as to give a blow to perforate the material with the cutter, or strike up the eyelet with the punch or die.

Claim.—The arrangement of the cylindrical stem *d* or *g*, springs 1 or 5, and cap *e* or *h*, in the perforated arm *c*, as specified.

Also, the percussion ball *i*, in combination therewith, as set forth.

No. 32,089.—M. D. and S. A. SNYDER, of Clarendon, N. Y.—*Improved Carpet Fastener.*—Patent dated April 16, 1861.—The fasteners, of the form shown in the engraving, are inserted in the floor by means of a gauge-set, which is provided with a hole on the under side of the raised part, in which the larger end of the fastener is held, the latter being driven into the floor by blows on the projection. The end of the set gauges the distance from the mould-board, and serves as a fulcrum for releasing the set from the fastener.

Claim.—A carpet fastener of the lozenge shape described, having two equal parallel sides and two unequal extremities, diminishing from a common point of enlargement, substantially as shown and described.

Also, the set A, provided with the distance gauge *d* and inclined gauge or gauges *d*, to be used in combination with said fastener, substantially as and for the purposes shown and described.

No. 32,090.—EZARIAH SPALDING, of Morrisville, Vt.—*Improved Clothes Wringer.*—Patent dated April 16, 1861.—In opposite sides of the machine are slides, in which are fixed bearings of the upper roller. In the lower end of the slides are slots, to receive a stud projecting from the lower end of a piece of metal having perforations, into which pins of the corresponding slides fit, for adjusting the distance between the rollers. A spiral spring upon the arms, with which the metal pieces are provided, keeps the arms pressed against the slides. By means of treadle, the pressure of the rollers together may be regulated at will.

Claim.—First, the combination of the treadle *c* with the arms *m m* and slides *d d*, arranged and operating as described, and for the purposes set forth.

Second, the combination of the metal pieces *f f* with the slots *e e* and spring *s*, constructed and operating in the manner and for the purpose shown.

No. 32,091.—JOSEPH STONE and JAMES T. ARCHIBALD, of Wapello, Iowa.—*Improvement in Corn Planters.*—Patent dated April 16, 1861.—This invention relates to an arrangement of parts whereby the operator has complete control over the machine, the furrow shares being allowed to be raised temporarily at the will of the operator, and the whole framing of the machine may also be raised bodily when required. Provision is also made to insure the proper distribution of seed and the ready adjustment of the shares.

Claim.—The arrangement of the adjusting cutters L with the hinged seed boxes O, oscillating seed tubes N, and lever J, substantially as and for the purposes shown and described.

The arrangement of the double crank-axle with the frame A and spud I, substantially as and for the purposes shown and described.

The arrangement of the adjusting bars H H with the adjustable standard bars E E and frame A, in the manner and for the purpose shown and described.

No. 32,092.—ISAAC STOUT, of Tremont, Ill.—*Improvement in Cultivators.*—Patent dated April 16, 1861.—The stocks of the front cultivators or ploughs are attached to the handles that serve to guide the cultivator, and the handles are pivoted to a cross-bar in such a manner that the operator, while guiding the cultivator, may vary the distance laterally between the furrows formed by the ploughs, as desired.

Claim.—Attaching the front cultivator teeth to the guiding handles of the plough, when arranged substantially as described.

No. 32,093.—LOUIS TILLIERS, of Mott Haven, N. Y.—*Improved Vise.*—Patent dated April 16, 1861.—The jaw B is made movable, so that it may present itself either vertically or angularly, and when angularly, the summit of the angle can be thrown upward or turned downward, as required. The opposite jaw is also made movable, and the two are designed to operate together so as to adapt themselves to and hold firmly a piece of metal of irregular form.

Claim.—A vise in which one limb has the jaw B hinged with a vertical movement and the other with the jaw C with a horizontal movement, the whole arranged, constructed, and operating as and for the purpose set forth.

No. 32,094.—FRANKLIN TRAXLER, of Saline, Mich.—*Improvement in Ploughs.*—Patent dated April 16, 1861.—This invention consists of an arrangement of devices by which the angle or position of the beam in relation to the plough may be changed so as to adjust and regulate the draught.

Claim.—The wedge B, knuckle K fitting into the socket L, flange C D, projection M fitting into recess N, the parts 1 and 2 having corresponding faces and bolt holes; the whole being made, arranged, and devised substantially in the manner and for the purposes set forth and described.

No. 32,095.—WILLIAM P. TROWBRIDGE, of Washington, D. C.—*Improved Specimen Cup for Deep-Sea Sounding.*—Patent dated April 16, 1861.—This invention is explained by the claim and engraving.

Claim.—A form and construction of a specimen cup having a single hole or opening in the bottom of the cup, which leads, by a short conical tube, to an enlarged cavity within, the tube rising above the bottom of the cavity, so that the specimen, on being forced through the tube when the lead strikes the bottom, will fall over the top of the tube into the cavity around it; the top of the tube being closed by a valve, which is not, however, deemed an indispensable part of the invention; all constructed and arranged as set forth.

No. 32,096.—OTIS B. WATTLES, of Mooresboro', N. C.—*Improvement in Straw-Cutters.*—Patent dated April 16, 1861.—The endless feed apron X is arranged on fixed bearings immediately in the rear of the mouth and guard; another endless apron moves on rollers, one of which has its bearings in the frame, while the other has its bearings in a pressure frame hinged to the main frame, so that, by placing weights on the top boards, the straw, &c., will be compressed in the rear of the knife. A sharpening steel is made to act against the bevelled edge of the knife in its descent, being attached to the lower ends of two long springs by means of adjusting screws, the upper ends of the springs being secured to the frame of the machine. By means of levers, pawls, and ratchets, the reciprocating movement of the knife frame effects a corresponding motion of the feed aprons.

Claim.—First, the relative arrangement of a feed apron X and rollers S Z with fixed bearings and a pressure apron V, with one (C′) of its two rollers on hinged bearings A′, in combination with a reciprocating knife D, substantially as and for the purposes set forth.

Second, the combination of the hook U, constructed and arranged as described, with the intermittent lever M, pawl Q, and ratchet wheel R, for the purpose described.

Third, the sharpening device consisting of a sharpening steel F, springs G G, and adjusting screw nuts I I I I, in combination with an oblique reciprocating knife D, substantially as and for the purposes set forth.

Fourth, the relative arrangement of the feed apron X, hinge pressure apron V, intermittent feed device L U M Q R, with an oblique reciprocating knife D, all substantially as and for the purposes set forth.

No. 32,097.—JOHN WENISCH, of Tompkinsville, N. Y., and REESE B. BERRY, of New York, N. Y.—*Improvement in Tablets.*—Patent dated April 16, 1861.—This invention consists in the manufacture of tablets by coating paper, pasteboard, sheet metal, or wood, or other suitable substance, first with a composition of plaster of Paris, white lead, and gum arabic, or glue, and afterward with a composition of shellac, emery, lamp black, or ivory black, reduced by alcohol to a suitable consistency, to be used as paint with a brush.

Claim.—The manufacture of tablets of paper, pasteboard, wood, sheet metal, or other material, coated first with the described priming composition, and afterwards with the specified finishing composition, or of slabs of such priming composition coated with such finishing composition.

No. 32,098.—THOMAS W. WHITE, of Milledgeville, Ga.—*Improvement in Seed Planters.*—Patent dated April 16, 1861.—This invention consists in drawing the seed out at regular intervals through the opening in the bottom of the hopper, by means of a reciprocating serrated blade passing through the bottom of the hopper. The upper end of the blade is left free so that it may swing back and forward in the hopper against the seed, so as to act upon the seed in all parts of the hopper. A reciprocating motion is given to the blade by means of the guiding wheel of the plough running in the furrow.

Claim.—First, the combination of the hopper with a serrated blade, receiving a positive movement in two directions, for the purpose of agitating the seed and drawing it from the hopper, substantially in the manner described.

Second, leaving the upper end of the blade within the hopper unconfined, for the purpose set forth.

Third, the combination of the serrated blade with a guide wheel, when arranged so as to give a reciprocating movement to the blade, as described.

No. 32,099.—S. M. WIRTZ and F. SWIFT, of Hudson, Mich.—*Improvement in Grain Separators.*—Patent dated April 16, 1861.—Immediately below the throat of the hopper is arranged a screen, on which the grain, with the oats, &c., first fall. The frame of this screen is pivoted to the top edge of the shoe, which gives it a rocking motion. Below the carrier-board is a long inclined screen, extending from the rear to the front end of the shoe. At the rear end of the shoe two short springs project, which give the screen a quick rebound at each movement of the shoe, to prevent the oats, &c., from clogging up the meshes.

Claim.—First, hanging the screens G on pivots *j j*, in shoe C, operating as and for the purposes set forth.

Second, arranging the inclined screen L within shoe C, so that said screen will have an end play and strike against pieces *m m*, as and for the purposes set forth.

No. 32,100.—ARCALOUS WYCOFF, of Elmira, N. Y.—*Improvement in Water Pipes.*—Patent dated April 16, 1861.—The interior of the pipe is made of wood, and around its outside is wound a band of iron to secure the necessary strength, and for securing the necessary tightness at the joints interior thimbles of wood are fitted in the ends of each joint. The whole is covered with a coating of cement for the purpose of excluding the air from the wood.

Claim.—The water-pipe composed of the thin interior wooden pipe A, the metallic coils or bands B around it, and the calcareous cement C, around the whole, (either with or without the bituminous coat or ingredient,) constructed and combined substantially as and for the purposes specified.

Also, the interior wooden thimbles D D, in combination with the pipe constructed substantially as and for the purpose described.

No. 32,101.—ALEXANDER CLOW, of Waterford, Pa., assignor to Himself and H. S. CAMPBELL, of same place.—*Improvement in Bee-Hives.*—Patent dated April 16, 1861.—The comb-racks are constructed with their upper bars of a W shape, for the reception of a rod which passes through mortices provided at suitable distances apart in two cleats attached to the top transversely of the racks. The feet of the racks fit in notches, by which means the racks are held securely and readily removed when necessary.

Claim.—Constructing bee-hives with a permanent wall or side C, rising from the lower structure A and sustaining the top D, in combination with the drop-sides or panels E E E, and interior slides F F F, whereby the whole interior of the hive and its contents may be

exposed or removed without removing the top, substantially in the manner and for the purpose shown and described.

Second, the described manner of constructing the comb-racks K, and connecting them with the hive, to admit of their ready removal and change, substantially as shown.

No. 32,102.—JAMES DODGE, of Waterford, N. Y., assignor to Himself and DAVID BLAKE, of same place.—*Improvement in Hardening Saws.*—Patent dated April 16, 1861.—The saw or metal plate to be hardened is placed on the artificial bed-piece, which, being elastic, conforms to the chill-blocks, the movable chill-block is then allowed to drop on the saw, by which means it becomes hardened.

Claim.—The artificial, elastic, and flexible bed-piece C, for the purpose described.

No. 32,103.—ALBERT GUMMER, of Indianapolis, Ind., assignor to Himself and GUSTAVUS ZSCHIECK, of same place.—*Improvement in Lath Machines.*—Patent dated April 16, 1861.—This invention consists in the use of two distinct and separate rests for sustaining the bolt whilst it is being cut into laths, by which a recess is formed so as to admit of the falling of the laths without obstruction, and the two rests are caused to recede from each other in a horizontal direction. Under the front edge of the knife is a jaw for the purpose of accommodating the circular spring by forming a shelf for the lath to slide upon when it is being cut. This spring is set between the jaws and the under part of the knife, and is made fast to the front edge of the knife-plate, so that it extends as the lath is being cut, and when cut the spring retracts and throws off the lath.

Claim.—First, the operation of a right-angled rest *q*, with the slot *o*, and pin *p*, or their equivalents, as described.

Second, the jaw 3 3, with the projecting pieces 2 2 2 2, the two set screws 6 6 6 6, and the circular spring 5, substantially as and for the purpose set forth.

No. 32,104.—LUKE L. KNIGHT, of Barre, Mass., assignor to E. and E. B. HASTINGS, of same place.—*Improved Clothes Frame.*—Patent dated April 16, 1861.—The radial stretching arms are hinged or pivoted to the hub, with which are combined angular brackets and sides, one of the arms of the brackets being in a vertical position, and the other arm at a suitable angle, so that the stretching arms are readily secured in an open or closed state.

Claim.—Hinging or pivoting the stretching arms C C C C, to hub B, and combining therewith the two armed brackets and slides G, as and for the purposes shown and described.

No. 32,105.—JOSEPH LOFVENDAHL, of East Boston, Mass., assignor to Himself, N. P. LINDERGREEN, and E. EHLIN, of same place.—*Improvement in Button Fasteners.*—Patent dated April 16, 1861.—Rigidly attached to the collet of a button are two or more points, which pass through corresponding perforations in a disk placed on the under side of the fabric to which the button is to be attached, the points to be bent down on the under side.

Claim.—The employment of a disk or washer B, perforated with holes C, corresponding in number and position to the points *a*, attached to the collet of a button A, in the manner and for the purpose shown and described.

No. 32,106.—GEORGE W. MARTIN, of Morrisiana, N. Y., assignor to Himself and WM. SHEPPARD, of Tremont, N. Y.—*Improved Wrench.*—Patent dated April 16, 1861.—The rocking cam jaw moves freely upon the stock of the wrench. The surface of the jaw in contact with the stock is formed as a cam, and is connected to the stock by a strap to which it is bolted, so that when the end of the jaw is brought in contact with a screw-head or nut the cam, by the rocking motion of the jaw upon the pivot, clamps the stock so firmly as to prevent the jaw from moving.

Claim.—The rocking cam jaw *d*, applied to the stock *b*, in the manner and for the purposes specified.

No. 32,107.—WILLIAM M. VAN WAGENEN, of Newark, N. J., assignor to Himself and DANIEL F. TOMPKINS, of same place.—*Improved Boat Detaching Apparatus.*—Patent dated April 16, 1861.—This invention consists in the use of a simple bolt hung in a ring at the bow or stem of the boat. The free end of the bolt, to which the tackle is hooked, is caught and held under a suitable projection and the boat suspended. The bolt is released by means of a lever which forces the free end of the bolt from the projection.

Claim.—The application and use of the bolt A, as a boat detacher, said boat being hinged or looped at one end, in combination with and operated by means of the lever B, at the other end, substantially in the manner and for the purposes described.

No. 32,108.—LEWIS R. WRIGHT, of Cohoes, N. Y., assignor to Himself and THOMAS R. HOWARD, of same place.—*Improvement in Seed Planters.*—Patent dated April 16, 1861.—This invention consists of a combination of parts constituting an adjustable seed-dropping device by which the seed-cell is emptied with a positive movement of the piston, and the piston retracted within the seed-cell by the device itself, independently of gravity, whatever may be the size to which the seed-cell is temporarily adjusted.

The rear end of the frame, in which is mounted the roller which sustains the rear part of

the machine, is connected with the main frame by means of a rule joint brace, by bending which downward the main frame is let down so as to bring the plough and coverer into action upon the soil, and by straightening the brace the plough and coverer are raised from the ground, which can be readily accomplished by the action of the foot of the operator. Another feature of this invention is explained by the third claim.

Claim.—First, the combination of the lever *e*, cam *f*, and spring *g*, with the piston *c*, and cell *d*, in the rotary cylinder H, forming the bottom of the seed box J, the whole constituting an adjustable seed-dropping device that empties the seed-cell with a positive motion, as described.

Second, the combination of the hinged frame R, carrying the roller Q, and the adjustable block O, carrying the coverer N, with the frame A, carrying the plough K, and supported forward thereof by a wheel or wheels C, the plough and coverer being thrown into and out of action upon the soil by means of the jointed brace S, substantially as described.

Third, the frames A A, hung separately on one driving axle B, so that they will rise and fall independently to suit the unevenness of the ground to be planted, and adjusted laterally to plant rows at different distances apart, and having equal and distinct seeding and planting devices which are thrown into and out of action separately to plant rows of different length, and in either alternate or opposite hills, all substantially as described.

No. 32,109.—J. A. De Brame, of New York, N. Y.—*Improved Baby-Jumper.*—Patent dated April 16, 1861.—The tubular legs at the back have each a tube fitted in it, secured at any height by set screws. In each tube is a spiral spring, which supports sliding rods, divaricated and curved at their upper ends, so as to form hooks for supporting elastic cords attached to a band around the child. The device may be adjusted so as to be used as a baby-jumper or walker.

Claim.—The combination of the tubular legs *a a*, adjustable tubular standards B B, springs C, set screws *d d*, and divaricated rods D D, the whole being constructed and arranged and operating in the manner and for the purposes shown and described.

No. 32,110.—Joshua E. Ambrose, of Lena, Ill.—*Improvement in Lamps.*—Patent dated April 23, 1861.—This lamp is designed for burning coal oil without a chimney. The body of the lamp is surrounded by a jacket, which forms a water chamber, to be supplied with warm water when heavy oils are used. An opening, provided with a plug, is made through the bottom of the lamp for the admission of water to keep the oil pressed up towards the burner. The shaft used for raising the wick is fitted in tubular bearings, provided with spiral springs, for keeping the wheels engaged in the wick. Around the inner tube I, which is connected with the shell, is placed a cone or deflector K, the base of which is attached to the shell, and a space allowed between the cone and the tube by which the air is brought in direct contact with the base of the flame. A flat metal plate, having an oblong slot through its centre, and provided with a pendant at each end, is made to fit over the wick tube, for the purpose of evenly trimming the wick.

Claim.—First, the employment or use of the water chamber C, communicating through a stoppered opening with the body or fountain A of the lamp, and arranged to operate substantially as and for the purpose set forth.

Second, the arrangement of the springs *k k*, shaft *g*, and wheels *h h*, substantially as shown, for elevating and lowering the wick, as described.

Third, the combination with the cone K of the short tube I, adapted and employed in the manner set forth, for the attachment of movable inner deflectors of various forms.

Fourth, the plate N, provided with the slot *s* and pendents *t*, operating in connexion with the outer cone or deflector K, in the manner and for the purposes set forth.

No. 32,111.—David S. Anderson, of Trenton, N. J.—*Improved Apparatus for Making Roofing Cloth.*—Patent dated April 23, 1861.—This invention consists of an apparatus for saturating cotton cloth with a heated compound of tar and India-rubber, covering this saturated cotton cloth on both sides with paper, and coating the combined cotton cloth and paper on both sides with the same heated compound of tar and India-rubber.

Claim.—The hollow callenders D D, combined with the paper rollers E E, the distributing rollers B B, and regulating rollers C C C′, in connexion with the receptacles A A, provided with radiating steam-pipes *g g*, or their equivalents, when arranged and described with, in, and for the principle specified.

No. 32,112.—Charles Bailey, of Batavia, Ill.—*Improved Arrangement of Threshing-Cylinder, Corn Sheller, and Grinding Mill.*—Patent dated April 23, 1861.—This invention is explained by the claim and engraving.

Claim.—So constructing the cylinder of a threshing machine as to form one head thereof, a corn sheller, and crusher, and on the end of its shaft a grinding mill, when the whole is arranged substantially in the manner and for the purpose set forth.

No. 32,113.—Henry Bailey, of Columbia, Me.—*Improved Washing Machine.*—Patent dated April 23, 1861.—The beaters are suspended from a horizontal rod by swing-bars, and

are hinged to the bars, which extend into a mortise in the beaters, where they are secured by a pin. The beaters are also similarly connected to the ends of the pitman, the other ends of the pitman being operated by a four-throw crank.

Claim.—The arrangement and application, substantially as described, of each stock or beater with respect to its swing-bar, pitman, and crank, where, by the conjoint action of the said parts, the beater during its forward motion over the bottom of the tub is caused to receive a tilting movement, by which its toe is borne downward on such bottom, substantially in manner and for the purpose set forth.

No. 32,114.—EDMUND F. BARNES, of Brooklyn, N. Y.—*Improvement in Railroad Chair and Splice.*—Patent dated April 23, 1861.—Secured to the centre of the chair, and rising vertically therefrom, is a fixed splice of iron, which passes up through a recess or cavity in the ends of the rails, so that when the rails are brought together on the chairs the splice will enter the ends of the rails and form a continuous bearing surface.

Claim.—The combination and arrangement of the chair A and splice B in connexion with the rails C C, substantially as and for the purposes set forth.

No. 32,115.—JOHN A. BROCK, of Chicago, Ill.—*Improved Mining Pan.*—Patent dated April 23, 1861.—This invention consists in applying to a pan in ordinary use and of any material an interior lining of copper, platinum, or other metal with which mercury will unite.

Claim.—A mining pan, as described, having a supplementary plate or disk fitted into the interior thereof, for the purpose of collecting and holding the mercury used in the framing operation in a fixed position, as and for the purposes set forth.

No. 32,116.—J. F. BROWN, of Columbus, Ga.—*Improvement in Cotton Gins.*—Patent dated April 23, 1861.—The breast, which is placed within the hopper, is constructed of metal ribs formed with two concavities corresponding to the two series of saws which project through the breast at the concaves. A cylindrical stripping-brush is arranged to act upon each series of saws, the brush serving to clean the saws and receive the cotton therefrom, and also to create a current of air to separate the fibres and discharge the dirt and extraneous matters. The use of two series of saws is designed to produce a motion of the cotton, which will prevent it from packing on the breast and injuring the fibres.

Claim.—The improved saw-gin, having its separate parts, viz: its hopper, breast, two sets of saws and brush, constructed and arranged in relation to each other, and so as to operate together, substantially as described.

No. 32,117.—DANIEL BROY, of Canton, Mo.—*Improvement in Seed-Planters.*—Patent dated April 23, 1861.—The frame is supported in the rear by two covering wheels provided with flat-bottomed grooves. The front part of the frame is supported upon two cutting-wheels provided with sharp-edged flanges, serving as cutters to open the furrow. The seed is discharged through oblong slots in the bottom of the hoppers, the amount being regulated by a slide. Each hopper is provided with an inclined cap to cover one set of seed-cells, and prevent their action when the other set is in operation. To the tongue is attached a lever, so arranged that the driver can raise the front part of the machine with his foot for the purpose of passing obstructions or turning around.

Claim.—The arrangement of the double-perforated slide F, inclined cap L, tubes I, cutting-wheels D, and lever G, with the flat-bottomed grooved wheels B and adjustable tongue J, in the manner and for the purpose shown and described.

No. 32,118.—MILLS L. CALLENDER, of New York, N. Y.—*Improvement in Lamps.*—Patent dated April 23, 1861.—The wick-tube is provided with two arms, between which a space is left for the admission of the air to the flame as it burns from the two wicks. The cap is placed between the bifurcated shield which surrounds the wick-tube and the deflector for the purpose of dividing the current of air as it passes to the flame and preventing it from becoming heated. The deflector is surmounted by a hinged cap, which can be raised or lowered to increase or check the draught.

Claim.—First, the bifurcated wick-tube *f* and its arms *e e'*, by which two wicks can be elevated or depressed simultaneously.

Second, the combination of the cap *b b'*, the deflector *c c'*, and the cap *d d'*, with the bifurcated wick-tube *f* and its arms *e e'*, and the bifurcated shield *a a'*, with its arms *y y'*, for supplying the interior of the flame with a current of heated air, and the outer surfaces of the flame with currents of cool air, for the purpose and in the manner specified.

No. 32,119.—C. F. CHICKERING, of New York, N. Y.—*Improvement in Square Pianofortes.*—Patent dated April 23, 1861.—The object of this invention is to give the square piano the advantage of an open bottom, similar to that of the grand piano. This is accomplished by transferring the hammer-line and its associated devices from the back to the forward part of the case, thus dispensing with that portion of the action which heretofore passed under the strings and sounding-board, in order to reach the hammer-line when situated in the back part of the case, and thereby permitting the bottom of the instrument to be left open, by which it is designed to improve the tone and render it more powerful.

Claim.—The combined arrangement of the wrest-plank, hitch-plate brace, and sound-board, and of the open or merely barred portion of the case in a square piano-forte, substantially as and for the purposes described.

No. 32,120.—JAMES L. CLOUGH, of Suffield, Conn.—*Improved Floor Clamp.*—Patent dated April 23, 1861.—The object of this device is to hold floor boards or ship planks in place until they can be confined by nails or other permanent fastening, so that a board which has become curved on one side may be pressed into its proper place without the necessity of sawing or planing.

Claim.—First, the jaw plates A and B, connected by one or more bars C C′, when constructed substantially as shown, and used for the purpose substantially as described.

Second, the combination of the lever D, pressure-bar E, and jaw plates A and B, substantially as described.

No. 32,121.—FRANCIS COMTESSE, of New York, N. Y.—*Improved Device for Protecting the Hulls of Vessels from Cannon Balls.*—Patent dated April 23, 1861.—The several shields are so arranged that the edge of each of them is partially overlapped by the edge of the adjoining shields, for the purpose of causing a ball to glance off when striking the vessel.

Claim.—The employment of convex rounded shields A, attached to the sides of a vessel by means of loops *a* and eye-bolts *b*, or by any other equivalent means, substantially as and for the purpose shown and described.

No. 32,122.—ALBERT O. CRANE, of Hoboken, N. J.—*Improvement in Boots and Shoes.*—Patent dated April 23, 1861.—This invention consists in holding together the risers that form the heel, by means of conical rivets with or without heads, so that whilst the lower ends of the rivets protect the heel from wearing away, they will not, by even wearing away themselves, allow the risers to separate, but continue to clamp them together. The heel is secured to the shoe by means of a conical nut in the heel, and a screw passing into it from the inside of the shoe, so that the heel may be loosened and turned around to prevent it from wearing away on one side, and fastened in a new position.

Claim.—First, a boot or shoe heel composed of two, three, or more "lifts or risers," and clamped and held together by conical rivets, which serve the double purpose of protecting the heel from wearing away, and of holding the "lifts or risers" tightly clamped together, as described.

Also, the holding of a heel to a boot or shoe by means of a conical nut *e* and a screw *f*, for the purpose and in the manner set forth and described.

No. 32,123.—GEORGE CROMPTON, of Worcester, Mass.—*Improvement in Looms.*—Patent dated April 23, 1861.—The picking on each side of the loom is governed by the presence and absence of the shuttle. When the shuttle-box binder, by the presence of the shuttle, operates the protector rod, it in turn disconnects the picking at the opposite or empty box end, whose binder has similar control over the picking at the other end, each shuttle having an independent protector rod, the action of which renders the picker staff at the opposite end inoperative; and if by accident a shuttle should be in each box on a line with the race, both staffs would be silent, and consequently avoid a collision, and the picking of them will continue suspended until one of the shuttles is removed, when the remaining one will be driven by the action of the staff, the one at the other end being silent.

Claim.—Controlling the operation of the picker staffs, substantially as and for the purpose specified.

No. 32,124.—JOHN DANKS, of Troy, N. Y.—*Improvement in Burners for Purifying Gas.*—Patent dated April 23, 1861.—The object of this invention is to purify the gas, and prevent it from blowing through the burner and passing off unconsumed.

Claim.—The employment as filling for a chamber B, applied in combination with a burner, substantially as described, of hemp or flax saturated with nitric acid, as set forth.

No. 32,125.—ELI P. DRAKE, of Greenbush, N. Y.—*Improved Boring Machine.*—Patent dated April 23, 1861.—Secured to a cast-iron frame is an upright stand, the upper part of which forms a curved guide, against which the upper end of a radial arm or lever slides, the lower part being secured to the stand near the frame by means of a bolt. A series of bars or rods are connected to the radial arm or lever at regular distances, each diminishing in length as they advance towards the standard. The lower end of each bar is forked and provided with lips or journals in which a spindle revolves, one end of which forms a socket or chuck to receive an auger bit or drill.

Claim.—A series of forked rods or bars G G G G, connected to the radial arm or lever F, which slides upon the guard E, substantially as and for the purpose specified.

No. 32,126.—STEWART ELDER, of Buffalo, N. Y.—*Improved Spring Bed.*—Patent dated April 23, 1861.—The coiled springs are supported by means of a suitable frame placed midway between the two bases of said springs, so that the frame will have an equal bearing upon both sides of the spring, and allow free action of the spring upon both sides of the frame.

Claim.—Supporting and holding the springs A, by means of the frame B, placed midway between the springs and connected thereto, substantially as described, for the purposes set forth.

Also, extending the frame B′ beyond the area of the springs, in order to incline the base of the springs, as shown at G. and also to incline the cords, as shown at *h*, and thereby adapt the same to the purposes of a pillow, substantially as set forth.

No. 32,127.—JOHN A. EMERICK, of Philadelphia, Pa.—*Improvement in Stopping and Starting Railway Cars.*—Patent dated April 23, 1861.—Each axle is provided with a central pulley, in the periphery of which are cut V-shaped grooves adapted to receive corresponding ribs formed on the under and upper sides of the frame E, the latter being arranged to slide longitudinally on the underside of the car frame, as well as to have a vertical movement to an extent limited by the central pulleys, which are of such a diameter that when the upper bar is in contact with the pulleys the lower bar is free from the same, and *vice versa*. To a vertical bar of the sliding frame is connected a bent spring, so arranged as to force the frame forward when not retained by the locking lever N, by moving which the sliding frame is released and the spring moves the sliding frame back, the spring thus giving out the power previously gained.

Claim.—First, the sliding frame E, with its V-shaped ribs, the central pulleys or wheels D D, having V-shaped grooves, and being secured to the axles of the car, the levers G G, or their equivalent, and the spring M, of the form represented, or any other convenient form, the whole arranged as and for the purpose set forth.

Second, the locking lever N, arranged in respect to the sliding frame, as and for the purpose specified, and operated by the devices described, or their equivalents.

No. 32,128.—CHAUNCEY W. EMERSON, of Albany, N. Y.—*Improvement in Cultivators.*—Patent dated April 23, 1861.—The side beams, to which the concave cutters are secured, are so arranged as to be adjusted by means of racks and a pinion, to a greater or less distance apart. To the rear of the standard L is attached a rake made adjustable vertically, which serves to pulverize and rake the earth loosened by the cutters.

Claim.—The peculiar-formed concave cutters G, on the lower ends of the edged uprights F, with the racks H, side beam C, standard L, rake N, bars E, and wheels B, the whole being constructed and arranged for operation conjointly, as and for the purpose described.

No. 32,129.—EDWIN J. FRASER, of Kansas, Mo.—*Improvement in Ploughs.*—Patent dated April 23, 1861.—This invention consists in an arrangement of devices, by means of which an ordinary plough may be readily attached to and detached from the frame, and when so attached to be elevated above the ground when necessary.

Claim.—The arrangement of the levers N I O and detents P Q with each other, and with the slotted bar L, rod M. cords *k p*, and plough, in the manner and for the purposes shown and described.

No. 32,130.—GEORGE P. GORDON, of Brooklyn, N. Y.—*Improvement in Printing Presses.*—Patent dated April 23, 1861.—This invention consists, first, in the use of a platen having two distinct and separate motions, namely, in a straight line to and from the type or form, for the purpose of carrying the sheet to and from the impression, and rocking from such a line, for the purpose of receiving the succeeding sheet to be printed. Second, in the use of a rocking platen whose face, at the time the nippers are receiving a sheet to be printed, shall stand at an angle from a horizontal position for the purpose of allowing the printed sheet to slide freely from the inclined surface of such platen. Moving with the rocking platen are automatic nippers, for the purpose of taking the sheet to be printed from the feed-table and holding such sheet until the impression shall have been given, and for the further purpose of lifting such printed sheet up from the tympan at the proper time and admitting a volume of air between the sheet and tympan, in order that the sheet, buoyed up by the air, may glide from the tympan freely and surely.

Claim.—First, giving to such rocking platen a straight movement to and from the form or type, for the purpose of giving an impression, as described.

Second, the platen, having the motions described, in combination with a stationary bed.

Third, bringing the face of the rocking platen or rocking tympan, when the sheet is being taken, into an angle from the horizontal position, substantially as described and for the purpose specified.

Fourth, the combination of the sheet-taking nippers with a rocking platen, and these in combination with a feed-table, and all of these in combination with the sheet-holding grippers, operating substantially as described, for the purposes set forth.

Fifth, lifting the printed sheet, substantially as specified, for the purpose specified.

No. 32,131.—CHARLES GREENAWALT, of Seiberlingville, Pa.—*Improvement in Water-Wheels.*—Patent dated April 23, 1861.—The half buckets extend little more than half the depth of the wheel, and are placed midway between the whole buckets, the two having a common outlet. The whole buckets *a a* are provided with an offset made by a gradual thickening of the back of the bucket toward the outlet, for the purpose of removing any resistance

to the delivery of the water from the back of the bucket in advance of the outlet, and to give the water a free drop at that point.

Claim.—In reaction tub-wheels, the use and arrangement of the half buckets *e*, in the manner set forth.

Also, the offset *m*, when used with the buckets *a a*, arranged and operating as set forth.

No. 32,132.—JOHN GUNN, of Worcester, Mass.—*Improved Steam Trap.*—Patent dated April 23, 1861.—This invention consists in the use of a rotary valve, which is operated by the expansion and contraction of the pipe carrying the condensed water from the steam heater. The motion of this valve is multiplied and its effect improved by the action of a two-armed lever, the long arm of which forms a toothed segment gearing into a pinion on the valve-stem, whereas its short arm is operated upon by a frame attached to the pipe and moved by the expansion and contraction of the same in such a manner that the motion of the valve is governed according to the proportion existing between the two arms of said lever.

Claim.—First, the employment or use of a rotary valve C, in combination with the expanding and contracting pipe A, substantially in the manner and for the purposes shown and described.

Second, the arrangement of the pinion D and lever *g h*, or their equivalents, in combination with the frame E, pipe A, and valve C, constructed and operating substantially in the manner and for the purposes specified.

No. 32,133.—FRANCIS B. HALL, of Hartford, Conn.—*Improved Instrument for Registering Reciprocating and Rotary Motion.*—Patent dated April 23, 1861.—This invention consists in combining a series of toothed wheels and a pinion operated by a worm wheel, so as to register the motions of machinery to which it is connected, whether rotary or reciprocating; if of the latter, it must be converted into rotary motion and communicated to the screw.

Claim.—First, the combination of the three toothed wheels B C and D with the pinion F, all operated by a worm A, or means equivalent, when so arranged as to indicate the whole number of revolutions and decimal parts of a revolution of these respective wheels, by means of a dial upon the face of the wheel D, or on any equivalent surface or surfaces, for the above or equivalent purpose.

Second, the combination of three toothed wheels and a pinion, (related to each other in the same or equivalent manner as may be the said wheels and pinion mentioned in the above claim,) when so arranged relatively to the face of the wheel D as to be operated by a worm on an axle E, or by means equivalent, for the above or equivalent purpose.

No. 32,134.—JOHN R. HARRINGTON, of New York, N. Y.—*Improvement in Carpet Linings.*—Patent dated April 23, 1861.—This invention consists in placing a layer of cotton or other soft fibrous material between two layers or sheets of paper and compressing them so that they shall all be closely united together.

Claim.—A lining or wadding for carpets and other purposes, made without the use of paste or any glutinous substance, substantially as described, for the purpose set forth.

No. 32,135.—ALFRED C. JONES, of Philadelphia, Pa.—*Improved Pipe Joint.*—Patent dated April 23, 1861.—Near the edge of the shoulder formed within the annular flange of one half the coupling is cut an annular recess, in which is secured one edge of a packing ring made of any suitable flexible material. The other edge of the packing ring bears against the bevelled interior of the annular projection of the coupling so as to make a tight joint when the two halves of the coupling are connected.

Claim.—A packing ring of flexible material, formed substantially as described, and interposed between the ends of two pipes, so formed in respect to the ring that the latter shall form a self-packing and yielding joint, as set forth.

No. 32,136.—W. KUHLENSCHMIDT, of New York, N. Y.—*Improvement in Button Fastenings.*—Patent dated April 23, 1861.—To a pin on the inner side of a button is attached a spiral spring, with a sharp curved point, which opens a hole in the fabric, and as the button is turned the fabric is clamped between the button and spring.

Claim.—The needle-pointed, conical, spiral spring A, attached to the inner side of a button B, or other similar article, as and for the purpose shown and described.

No. 32,137.—DONALD MANN, of Rochester, N. Y.—*Improvement in Rotary Spading Machines.*—Patent dated April 23, 1861.—This invention is designed as an improvement upon a machine patented to O. C. Evans, November 4, 1856, and consists in arranging and supporting the rollers or drums carrying the endless chains of forks or spades in a frame separate and distinct from the carrying truck or frame of the machine, so that the digging apparatus can be easily raised from the ground when the machine is moved from place to place.

Claim.—Arranging the drums or rollers *a b c*, with their endless chains C, in the separate frame B, substantially as and for the purposes set forth.

No. 32,138.—H. B. MASSER, of Sunbury, Pa.—*Improvement in Ice-Cream Freezers.*—Patent dated April 23, 1861.—This invention is explained by the claim and engraving.

Claim.—Securing the cream receptacle C within the ice-vessel A, and attaching the latter by a swivel connexion or pivot E to the base D, to admit of the turning of the ice-vessel and cream receptacle on the base, substantially as and for the purpose set forth.

Also, constructing the pivot E with a recess *b* in its upper end, to serve as a step for the shaft F, when said pivot thus arranged, applied, and used for the purpose specified.

No. 32,139.—JAMES MCCOLLUM, of Brownsville, Ala.—*Improvement in Sub-soil Ploughs.*—Patent dated April 23, 1861.—Secured to an eye under the rear end of the main beam are two curved bars, the lower ends of which are pivoted to an adjustable brace pivoted to the two forward curved bars, so connected that the front and rear bars may be set at any desired angle with reference to the beam or line of draught. On the front edges of the forward bars are cut rack-teeth, in which is made to fit the head of a curved coulter, where it is secured by means of a nut and screw, and may be adjusted vertically.

Claim.—First, the adjustable brace *c*, pivoted at *d* and *i* to the double pivoted bars *b b* and *g g*, and secured to the bars *b b*, substantially as and for the purposes described.

Second, the curved coulter C, with its head *m*, screw pin *l*, and nut *l'*, in combination with the rack-bars *g g*, as and for the purposes described.

No. 32,140.—T. S. MILLS, of Iberia, O.—*Improvement in Seeding Machines.*—Patent dated April 23, 1861.—The seed-slide is formed of two longitudinal parts, one of which is stationary, and by means of screws the other part may be adjusted towards or from the fixed part to regulate the supply of seed. Near each end of the movable part *b* are attached two arms which pass into recesses and serve as guides for the slides G G, at their inner sides, so that by adjusting the part *b*, the slides will be correspondingly moved, and the recesses, which are discharge openings for the seed, may be enlarged or contracted as desired.

Claim.—Constructing the seed-slide F of two parts *a b*, one part *b* being adjustable by means of the screws *c c*, and provided with slides G, which are fitted in recesses *d d* in the part *a*, and also arranged so as to be capable of a separate or independent adjustment in the recesses *d d*, by means of the screws *e e*, substantially as and for the purpose set forth.

No. 32,141.—H. W. MOSHER, of Warren, Ill.—*Improvement in Coffee Pots.*—Patent dated April 23, 1861.—In the upper part of the boiler is arranged a breast or air-space communicating with a hollow brace between the body of the boiler and the spout in such a manner that a portion of the steam or vapor arising from the boiling liquid in the boiler is condensed on passing through said air-space and hollow brace, and returned in a liquid state to the boiler. Around and in the centre of the cold-water condenser is arranged a conical air-space in such a manner that the condensation of the steam or vapor arising from the liquid in the boiler is facilitated and the full flavor retained.

Claim.—First, the arrangement of the breast *a*, annular chamber *b*, and hollow brace B, in combination with the boiler A, constructed and operating as and for the purpose set forth.

Second, the arrangement of the air-space *f*, with inclined sides *h i*, in combination with the water-space *g* and boiler A, constructed and operating in the manner and for the purpose set forth.

No. 32,142.—JOHN PATERSON, of Indianapolis, Ind.—*Improvement in Cheese Presses.*—Patent dated April 23, 1861.—This invention consists in the combination of a weighted lever, screw, and nut, so arranged as to admit of an adjustment by which the weight upon the cheese is renewed after the lever has sunk so low, by the continual pressure on the cheese, as to lose its direct pressure.

Claim.—The arrangement and combination of the two lugs 2 and *y* with the forked lever *b b b*, the upright piece *f f*, the notch or curvature *x*, the slot *m*, or its equivalent, the pin *l l*, the hand lever *n*, the tightening wire hoop *u u*, the pin *v*, and the stop-holes *s s*, as and for the purposes set forth.

No. 32,143.—EDUARDO JUANES Y PATRULLO, of Merida, Mexico.—*Improvement in Machines for Dressing the Leaves of Agave Americana.*—Patent dated April 23, 1861.—Upon the ends of a main and secondary drum are two endless belts connected at intervals by metallic slats arranged in pairs in such a position that when the drum is rotated each pair of slats sweeps over one of the beaters, the slats acting as scrapers to remove from the beaters such portions of the leaves as are liable to adhere to the edges and impede the action of the beaters.

Claim.—The arrangement of the endless slatted apron C *b*, in combination with the beaters B, constructed and operating substantially in the manner and for the purpose shown and described.

No. 32,144.—JOHN C. PITEL, of West Meriden, Conn.—*Improved Clock Escapement.*—Patent dated April 23, 1861.—Connected with the detent or repose pallet is a projecting point, working on a joint pin in such a manner as to be unyielding in one direction, so that, by the action of the lifting pallet upon it, the repose pallet will be lifted or moved sufficiently to release the point of the tooth of the crown or escape-wheel, and allow the force of the main spring to

revolve the escape-wheel, so that the next tooth will come in contact with the main or impulse pallet, to give a vibratory motion or impulse to the balance, while the detent or repose pallet will be returned to its original position by a spring, and the lifting pallet on its return will be allowed to pass the projecting point, as that point will yield (in that direction) on its joint pin, and will be again restored to its place by a suitable spring.

Claim.—The use of the detent or repose pallet *e* and projecting point *g*, in combination with a suitable lifting pallet (as *c*,) when the whole is constructed, arranged, and fitted to produce the result, substantially as described.

No. 32,145.—JOHN RAMSAY and A. B. SMITH, of Clinton, Pa.—*Improvement in Guides for Cutting Out Pantaloons.*—Patent dated April 23, 1861.—To the strip which marks the cloth at the outer seam is rigidly secured a guide-plate, which enters a slot in the strip marking the inner seam. Parallel with the guide-plate, and near the upper and lower ends of the strips, are plates pivoted to the outer strip, and extending through slots in the inner strip. The inner edges of these plates are notched to correspond with the divisions of a scale with which they are provided, and catch upon pins within the slot, and are kept in contact with these pins by means of coiled springs, connecting with the fixed guide. The inner or movable strips are jointed and provided with an adjusting bar, in order to adapt the instrument to variations of fashion.

Claim.—The arrangement of the central rigid guide-plate C, the movable ratch-plates D E, springs G H, and pins *g g*, applied to and in combination with the strips A and B, substantially as and for the purposes herein specified.

Also, in combination therewith, the point I of the movable strip B, with the pivoted adjusting bar L, substantially as and for the purposes set forth.

No. 32,146.—SAMUEL REYNOLDS, of Duquesne Borough, Pa.—*Improved Handle for Hoes.*—Patent dated April 23, 1861.—This invention is explained by the claim and engraving.

Claim.—The use of the socket, or ferrule shank, bearing heads or straps and rivet, when made in one piece, as described and for the purpose set forth.

No. 32,147.—GHARLES ROBINSON, of Cambridgeport, Mass.—*Improved Clothes Drier.*—Patent dated April 23, 1861.—This device is designed to be suspended from the ceiling, so that the radial arms upon which the clothes are hung may be brought down within reach, or raised to any desired height, by means of a pin on the rod and the slide-notches in the slot of the tube.

Claim.—The tube C, provided with the slot *f* and side-notches *g g*, in combination with the suspension rod D and pin *h*, or its equivalent thereon, when the said tube is suspended from the ceiling of a room, or other equivalent suspension surface, substantially as and for the purposes specified.

No. 32,148.—JOHN ROGOWSKI, of New York, N. Y.—*Improved Night Reading-Desk.*—Patent dated April 23, 1861.—The object of this invention is to provide a reading-desk combined with a clamp to hold a gas-burner or candle, and attached to arms which are adjustable in a vertical or lateral direction. The desk is furnished with adjustable stops, to prevent the book from sliding down over its sides, and with a sliding clasp overlapping the upper edge of the book for holding the pages down. The whole is attached to a stand in such a manner that the desk can be readily adjusted, so that a person can read while lying in a bed or on a couch.

Claim.—The arrangement and combination of a reading-desk A with stops *e e* and clasp *f*, clamp C, horizontally adjustable rod B, rotary sleeve D, and vertically adjustable rod E, all constructed and operating substantially in the manner and for the purpose shown and described.

No. 32,149.—R. E. ROGERS and JAMES BLACK, of Philadelphia, Pa.—*Improvement in the Method of Combining and Utilizing Steam and Air.*—Patent dated April 23, 1861.—This invention consists in a method of introducing air and commingling it with the steam, through the agency and by the power of the current of the steam itself, on its way from the generator to the motive cylinder of the engine. The engraving represents a small cylinder placed at any point between the boiler and the working cylinder, to which small cylinder is attached a short tube having an inlet chamber, in which is a flap-valve, and which tube is also provided with an air-opening, through which the air is drawn, and as the steam mingles with it, a portion of the heat of the latter is imparted, whereby is designed to be developed an available elastic force greater than that lost by the steam itself in the act of producing the expansion of the air.

Claim.—First, the method of combining and utilizing steam and air, as set forth.

Second, the valve *x*, or its equivalent, in combination with the other parts of the aspirator, as described.

No. 32,150.—E. T. SHEPARD, of Gallipolis, O.—*Improved Washing Machine.*—Patent dated April 23, 1861.—This invention consists in the arrangement of a series of rings, each of

which is supported by springs secured around a rotary shaft, having its bearings in a swinging frame, combined with a slatted rotary clothes cylinder in such a manner that the several rings bear on the surface of the clothes wrapped round the slatted cylinder, and that, on rotating said cylinder, the clothes are carried through under the rings, which latter, by means of the springs supporting them, accommodate themselves to the inequalities in the surface of the clothes.

Claim.—The arrangement of a series of rings C, secured to a rotary axle D by means of springs E, and suspended in a swinging frame F, in combination with the rotary slatted cylinder B, constructed and operating substantially in the manner and for the purpose shown and described.

No. 32,151.—CALVIN SHEPHERD, of Chenango, N. Y.—*Improvement in Water-Elevators.*—Patent dated April 23, 1861.—The two pawls which are used to keep either one of the buckets in an elevated position, when filled, are operated so that one pawl can be thrown off at the same time and by the same movement which throws the opposite pawl on its ratchet wheel, one bucket being raised while the other is lowered into the well.

Claim.—The sliding-plate J, pawls *g g'*, and ratchet wheels *h h'*, in combination with the drum and axle and the two buckets, when the same are arranged in the manner and for the purposes described and shown.

No. 32,152.—JOHN E. SMITH, of Waterbury, Conn.—*Improvement in Buckles.*—Patent dated April 23, 1861.—The clasp or buckle is made of two pieces of sheet metal, in such a manner that the webbing will be bound or secured at any desired point by a rib or projecting edge, immediately adjoining and forming one side of the loop, being pressed upon it so as to hold it firmly against the inner or back surface of the plate by means of the strain on the loop.

Claim.—A buckle or clasp consisting of the loop part, figs. 3 and 4, with its rib or projecting edge *e*, in combination with the main plate A, when the parts are constructed, connected, and fitted to produce the result, substantially as described.

No. 32,153.—JOHN K. SMITH, of Trenton, N. J.—*Improvement in Steam Ploughs.*—Patent dated April 23, 1861.—On the axle of the wheels D D are secured two bevelled wheels, above which is a corresponding bevelled wheel attached to a lever, by moving which the bevelled edge of the upper wheel may be brought in contact with either of the two lower ones. Upon the axis of the upper wheel are two pulleys, around the lower one of which passes a rope or chain having its ends attached to the peripheries of segments at the ends of the bolster-plate F; a rope or chain from the upper pulley extends back and is attached to two segments at the end of the bolster-plate in the rear. On the axle G are placed loosely two ratchets which may be thrown in connexion with the axle, when necessary, by means of clutches operated by a lever. Attached to these ratchets are pulleys provided with cords passing over uprights, so that the frame which contains the spade cylinder may be raised from the ground when necessary.

Claim.—First, the arrangement of the segments L' M, on the bolster-plates F N, of the axles of the wheels C E, the cords *e f*, the pulleys *c d*, and wheel K, of lever L, and the wheels J J on axle G, for the purpose of guiding or turning the machine, as set forth.

Second, the arrangements of the ratchets O' on axle G, cords *i'*, passing over the pulleys *j'*, and attached to frame B, in connexion with the frames A B, connected together as shown, whereby the inner or front end of frame B, and consequently the spade cylinder, may be elevated when desired.

Third, the employment or use of the weight T, suspended on the axle *s*, in connexion with the tangs *t* of the spades R and the springs *m*, all arranged to operate as and for the purpose set forth.

No. 32,154.—WILLIAM W. SNOW, of Jersey City, N. J.—*Improvement in Tires for Locomotive Wheels.*—Patent dated April 23, 1861.—The tire is constructed with three interior flanges having recesses between them, in which are securely fastened blocks of wood to form a cushion between the tire and the wheel or centre, and also a support for the bolts by which the tire is secured. Across the interior face of the tire extend braces and brackets to strengthen the tread of the wheel, and affording a bearing and support for the bolts to pass through.

Claim.—A hollow or cored out cast-iron tire for the drawing wheels of locomotives, when furnished with flanges, braces, and brackets, and filled in with wooden blocks, or their equivalents, in the manner and for the purposes set forth.

No. 32,155.—JACOB STUBER and FREDERICK FRANK, of Utica, N. Y.—*Improvement in Lamps.*—Patent dated April 23, 1861.—At the bottom of the burner is secured a reservoir or air-chamber consisting of an outer and inner part, the outer part being air and water tight and secured to the inner part, which is perforated, a small space being left between the parts. The collar to which the inner part is attached is also perforated, and connects with the space between the parts of the air-chamber. Around the inside of the body of the burner are pipes or flues connecting with the air-chamber and terminating at the top of the wick tube, which is provided with a double button, the outer edges of which are perforated. The button is

attached to a rod by which it may be raised or lowered. The top of the body of the burner has two rows of perforations.

Claim.—The arrangement of an air-chamber below the wick tube, formed by the perforated shell D communicating with the outer air through openings formed in its collar for that purpose, when such chamber is used in connexion with a series of tubes or flues through which the air is conducted to the inside of the cone G, and by it directed in a steady current on the flame, thereby preventing flickering by the jarring of the lamp or from sudden currents of air striking the same.

Also, in combination with the devices above mentioned, the arrangement of a series of holes in the body E of the lamp, immediately above the flange of the cone for the admission of air to the flame, on the outside of the cone, so as to furnish the requisite amount of oxygen to complete the combustion of the oil.

Lastly, in connexion with the devices above mentioned for the supply of oxygen to the flame, the perforated double button F, by means of which the gaseous products of the flame and the oxygen are thoroughly mixed and spread, whereby a more perfect combustion is effected than by any other method now in use in circular wick lamps.

No. 32,156.—JOSEPH THOMAS, of New York, N. Y.—*Improvement in Lamps.*—Patent dated April 23, 1861.—This invention is designed for burning coal-oil and similar fluids without a chimney, and consists in arrangements for inducing and directing currents of air to support the combustion and spread the flame.

Claim.—First, the construction and use, in coal-oil lamps, of two vertical or partially inclined passages D D′, terminating at the top in such a form and so arranged in respect to the flat wick tube, as set forth, as to discharge, at right angles or thereabouts to the plane of the wick two currents of heated air partly upon the wick and partly upon the flame, and preventing the access of the air to the edges thereof, in the manner and for the purpose specified.

Second, the enlarged ends H and H′ of the opening G in the cap E, the said ends being wider than that part of the opening in the cap through which the body of the flame passes, and extending down to points level, or about level, with the top of the wick tube, as represented and described.

No. 32,157.—HAMILTON E. TOWLE, of Exeter, N. H.—*Improved Apparatus for ascertaining the Curvatures of the Keels or Bottoms of Vessels.*—Patent dated April 23, 1861.—This invention consists of an instrument extending the length of that part of the keel or bottom of the vessel the curvature or irregularities of which are to be ascertained, to which instrument vertical rods are attached in such a manner as to admit of motion at right angles with the direction of the length of the instrument, which rods, by pressing against the keel or bottom, will indicate its curvature.

Claim.—The girder, in combination with the vertical measuring rods, constructed and arranged substantially as described.

No. 32,158.—JOHN G. TREADWELL, of Albany, N. Y.—*Improved Coal-Scuttle.*—Patent dated April 23, 1861.—To the top of the scuttle is secured a cover provided with two openings, one for the reception and the other for the discharge of coal.

Claim.—The described coal-scuttle as an article of manufacture, constructed substantially as and for the purpose set forth.

No. 32,159.—DANIEL B. WAITE, of Providence, R. I.—*Improvement in Making Watch and Locket Rims.*—Patent dated April 23, 1861.—The metal tubing being annealed, and drawn through a graduation of holes in a draw-plate, is reduced to the required diameter. The tube is then placed in a lathe, and, while revolving, by means of a half V-shaped tool is cut into rings, which are afterwards pressed into the form desired for snap or spring lockets.

Claim.—The making of watch and locket rims from metal tubings, substantially as described.

No. 32,160.—CHESTER BULLOCK, of Jamestown, N. Y., assignor to Himself and DE FOREST WELD, of same place.—*Improvement in Rakes for Harvesters.*—Patent dated April 23, 1861.—This invention relates to means for placing the cut grain stalks or grass upon a rake-bed or table, and to the delivery of the stalks by the rake as a rear delivery, or by the rake to a bed or table with a side delivery, which side delivery is so made and arranged that it may be detached, when it is preferred, to use a rear delivery.

Claim.—First, the scraping-bar *y*, attached to the rake *s*, as and for the purposes set forth.

Second, the reciprocating rear delivery rake and the detachable reciprocating side delivery rake, operating in combination in the manner substantially as and for the purpose described.

Third, the spring-bar connexion between the cross-head rake *i* and the crank *j′*, arranged and operated as set forth.

No. 32,161.—E. B. COFFIN, of Johnston, R. I., assignor to Himself and A. H. SYLVESTER, of same place.—*Improvement in Lanterns.*—Patent dated April 23, 1861.—This lantern

is designed to burn coal oil. The upper end of the globe in which the lamp is placed is secured to a metal cylinder divided by a partition into two compartments, the lower one of which is perforated at its sides. In the upper part of the cylinder is a deflector, with a space between its edge and the cylinder. Above the cylinder is a small dome-shaped chamber with apertures in its sides, and provided with V-shaped valves, which swing freely over the apertures to prevent back draught. Air is admitted at the base of the lantern through perforations regulated by a register.

Claim.—In connexion with the cylinder G, coal oil burner E, and chimney F, the valves J in the dome or chamber I, the deflector or plate H in the cylinder G, and the register C at the base of the lantern, when all are combined and arranged substantially as and for the purpose specified.

No. 32,162.—GEORGE S. CURTIS, of Chicago, Ill., assignor to Himself and THOMAS B. BRYAN, of same place.—*Improvement in Skate Fastenings.*—Patent dated April 23, 1861.—This invention consists in giving a lateral sliding movement to skate clamps by means of two horizontal levers which project forward and backward from the heel and sole clamps, respectively, and receive straps on their ends, which are buckled over the instep of the foot in effecting the clamping of the skate to the boot.

Claim.—The movable clamping plates C C and E E, pivoted to levers A B, respectively, and operated by the straps *a a'*, substantially in the manner and for the purposes set forth.

No. 32,163.—JOSEPH O. FARRELL, of Boston, Mass., assignor to Himself, W. S. HILLS, and J. H. HILLS, of same place.—*Improvement in Tailboards for Wagons.*—Patent dated April 23, 1861.—Connected with the tailboard, which is hinged to the bottom of the wagon body, are two sector arms provided with notches, into which spring-latches are made to catch so as to lock the tailboard in any desired position.

Claim.—The notched sector bars C C, vertical spring-bolts D D, arms *i i*, and shaft G, arranged and combined with hinged tailboard B, and operating as a self-lock, as set forth.

No. 32,164.—JOHN MAGEE, of Lawrence, Mass., assignor to Himself and WILLIAM J. TOWN, of Newton, Mass.—*Improvement in Stoves.*—Patent dated April 23, 1861.—The air inlet pipes are so arranged as to introduce the external air into the fuel in the furnace during combustion. The cover is so applied as to slide off horizontally from the top, which admits of the water urn being readily moved at the same time.

Claim.—The peculiar arrangement of the air pipes or ducts *d d* and the partition *c*, relatively to the oven, the stove case, and the smoke space around the oven.

Also, the particular arrangement of the air-inlet pipes E E, within and so as to form part of the fire pot or furnace.

Also, the application of the cover C to the top of the stove by means of the side bar D and the standard *g*, arranged and applied together, and with respect to the cover and stove or oven of the latter, substantially as described and represented.

No. 32,165.—JOSEPH STEVENS, of Lowell, Mass., assignor to Himself and H. M. CURRIER, of same place.—*Improved Spring Bed-Bottom.*—Patent dated April 23, 1861.—The longitudinal slats are provided on their under sides at each end with a plate having a slot in it, one end of which slot is large enough for the head of the screw to pass through, and the other only large enough for the shank, so as to fit upon screw-heads projecting from the cross-bars, by which means they are secured as the rails are spread apart, and fastened in position by lock-bars.

Claim.—The combination of the slotted slats E E, &c., the cross-bars D D, the lock-bars H H, and the springs C C, &c., substantially as and for the purpose described.

No. 32,166.—FREDERICK S. STODDARD, of Litchfield, Conn., assignor to EDWARD COE, of New Haven, Conn.—*Improvement in Spinning Frames.*—Patent dated April 23, 1861.—The object of this invention is to allow the twist to pass from the spindle to the first or back pair of drawing rollers during certain portions of every revolution of the front drawing rollers, in which their drawing action is suspended, and to perform the drawing during the remaining portions of the revolution, in which the twist is prevented passing the second or front rollers by means of the peculiar construction of the lower front drawing rollers, as claimed.

Claim.—The employment, in combination with top rollers F F, of the kind commonly used, of bottom rollers G G, made with recesses *a a* in a portion of their fluted peripheries, but with a portion *c c* of said peripheries completely cylindrical, substantially as described, so that while they intermit the drawing operation, and allow the twist to pass them, they keep the top rollers F F supported, and drive them continually by friction.

No. 32,167.—THOMAS H. DODGE, of Washington, D. C.—*Improved Letter Paper.*—Patent dated April 23, 1861.—This invention consists in tinting so much of the blank side of a sheet of letter paper as that, when folded up in the form of a letter, it will have the appearance of a tinted envelope. With the blank side thus tinted is combined the official embossed stamp, in such a relative position, as respects the sheet, that when folded up the stamp will occupy

a position at the right upper corner of the folded letter, to facilitate the marking out of the stamps in the post office. A white margin is arranged to be turned out, upon which may be marked the filing or other memorandum, so as to have the original address, postmarks, and filing all upon one side and within sight at the same time.

Claim.—First, tinting a portion or all of the blank side of letter or note paper for the purposes stated.

Second, combining with the blank side of the sheet of letter or note paper thus tinted the official embossed postage stamp or mark, in such relative position as respects the sheet as that, when the same is folded up, the stamp will occupy a position at the right upper corner of the letter, as and for the purposes set forth.

Third, leaving the margin D′, in combination with tinting the portion A, as and for the purposes set forth.

No. 32,168.—CHARLES K. MYERS, of Pekin, Ill., assignor to Himself and JOHN COHENOUR, of same place.—*Improvement in Corn-Planters.*—Patent dated April 23, 1861.—The cross-bars connecting the frame are slotted to admit of lateral adjustment of the two sets of seed-dropping mechanism. A coulter fixed in line with and under the seed-tube is provided with wings and a centre tongue, and the parts are made adjustable by means of a screw and slot and hinge to plant at any desired depth. The seed-tube is provided with a mouth-piece or hinged valve, and made to open and close the mouth of the tube by means of an arm working in a semicircular groove in one of the slides.

Claim.—The arrangement of the bars B B′, coulter *k s u n′ p*, and discharging mechanism *f g h i*, the whole being constructed and operating in the manner described.

No. 32,169.—FREEBORN ADAMS, of Somerville, Mass.—*Improvement in Casting Copper Cylinders.*—Patent dated April 30, 1861.—The invention is explained by the claim and engraving.

Claim.—As an improvement in the art of casting copper cylinders and tubes, pouring the fluid metal in two or more streams into the mould, on opposite sides, substantially as described.

No. 32,170.—GEORGE ALDRICH, of Armada, Mich.—*Improved Ladder.*—Patent dated April 30, 1861.—Two ladders are connected at their upper ends by a shaft which allows them to spread or contract, so that the platform may be raised or lowered. The platform is secured to the ladder by means of frames attached to the under sides of the platform.

Claim.—The combination of the self-adjusting platform D G C with the ladders I I and frame F G, substantially as and for the purpose specified.

No. 32,171.—FRED. W. ALEXANDER, of Baltimore, Md.—*Improved Combination Lock.*—Patent dated April 30, 1861.—This invention consists in rendering the bolt when shot independent of any and all parts of the machinery when the latter is capable of being revolved or moved in any manner. The slides are so constructed and arranged as to be capable of being opened only by the person who has the secret of the closing of the lock.

Claim.—First, the apparatus for detaching the bolt when shot from the ordinary machinery of the lock, substantially as described.

Second, the apparatus of combinatory and interchangeable slides, moving rectilinearly, substantially as described.

Third, the use of separate pieces of metal at *w w′ w″ w‴*, &c., in connexion with the said slides, for the purpose set forth.

No. 32,172.—F. L. BAILEY, of Boston, Mass.—*Improvement in Printing Presses.*—Patent dated April 30, 1861.—The nature of this invention consists of details which do not admit of a brief description.

Claim.—First, the inclined belt *a a*, or its equivalent, and the clasps *h′ h′*, or equivalents, when the same are arranged in combination with the nipper frame F, and its rectangular depression *x′*, or their equivalents, substantially as described and for the purpose specified.

Second, the stationary nippers *f u*, &c., and adjustable clasps *h′ h′*, or their equivalents, when the same are in combination with the belt *a a*, or its equivalent, substantially as described.

Third, the bands *a a* and *d d*, or their equivalents, when the same are in combination with the sheet supporter 8, substantially as described and for the purpose specified.

Fourth, raising the frame F by its own outward movement, and the button X, or their equivalents, substantially as described.

Fifth, the crank V″, sliding rod *m′*, spring *o′*, and lever L, when the same are arranged and operate substantially as described.

Sixth, the carriage C, when the same is in combination with the vibrating nipper frame F, or its equivalent, substantially as described.

Seventh, the combination of the blocks *b2 b2*, and rod V, when the same are arranged substantially as described and for the purpose described.

Eighth, the feed table 7, when the same is in combination with the sheet supporter 8, and belt *a a*, or their equivalents, substantially as described.

No. 32,173.—ABRAM BASSFORD, jr., and W. B. CARPENTER, of New York, N. Y.—*Improvement in Skates.*—Patent dated April 30, 1861.—This invention consists in providing a skate runner with posts, upon which are placed nuts or collars which screw up or down on the post for the purpose of adjusting the distance between the runner and the foot, or to one side or the other of the foot, the post being provided with a movable screw-pin, having a head or button on one end, which slides in a slotted plate attached to the sole of the boot, or to the wood.

Claim.—First, the hollow screwed post *c*, with its screw-pin *b*, and its collar or nut *k*, or their equivalents, combined for the purpose described.

Second, the post *d*, with its screw-pin *e* and collar *k* combined, or their equivalents, for the purpose set forth.

Third, the slotted hole *n n*, in the plate *t*, or its equivalent, when used in the manner and for the purpose specified.

No. 32,174.—L. B. BATCHELLER, of Rochester, N. Y.—*Improvement in Pistons of Steam Engines.*—Patent dated April 30, 1861.—This invention consists in forming on the lower side, near the periphery of the piston, a surface exposed to the direct pressure of the steam in the cylinder, in a direction diametrically opposed to the line of gravity, of an extent, which, calculated from the pressure of the steam employed, shall be sufficient to equal the weight of the piston, and thus prevent an excess of friction on the under side. The angle of the under side of the piston is constructed so as to present a sharp edge, or an acute angle, in the direction in which it moves, which causes it to scrape up and remove any foreign matter or sediment that falls to the bottom, the object of the invention being to prevent the undue wear on the lower side of the horizontal cylinder caused by the weight of the piston.

Claim.—Forming the pistons of horizontal steam engines with the recesses *e e*, or their equivalents, on the lower side thereof, for the purpose of employing the force of the steam effectively to overcome the weight of said piston, substantially as and for the purpose shown and described.

Also, forming the angles *i i*, on the lower edge or periphery of the piston, substantially in the manner and for the purpose set forth.

No. 32,175.—HENRY BEHN, of New York, N. Y.—*Improved Washing Machine.*—Patent dated April 30, 1861.—The upper and lower washboards are each formed of two parts—the forward ends consisting of square rollers, fluted lengthwise, and supported in suitable braces fast to the inner ends so as to turn upon their axes. The rollers are held by means of springs against the faces of the inner boards so as to hold the fabric between said rollers and the ends of the boards, while that part lying between is rubbed and washed. The upper inner board is provided with a slide, so arranged as to rest upon the lower board, to prevent the fabric from going towards the rear end of the machine.

Claim.—First, the arrangement and construction of the upper and lower washboards in such a manner that the clothing shall be held fast by said washboards, while that part of the clothing situated between the two boards is being rubbed and washed, substantially as described and set forth.

Second, the arrangement and use of square rollers on the ends of the washboards, forming a part of the same, and the manner of operating said rollers, for the purpose specified.

Third, the arrangement of the slide R, in combination with the upper washboard, in the manner and for the purpose substantially as described.

No. 32,176.—B. C. BIBB and HENRY AUGEE, of Baltimore, Md.—*Improvement in Stoves*—Patent dated April 30, 1861.—Suspended by means of flanges in the upper part of the pedestal is a pot Q, leaving a circular open space between its outer periphery and the inner surface of the stove, through which space the products of combustion can find their way from the pedestal into the cylindrical top part above. The top of the pot is closed by a plate, provided with a hole and cover in the centre, and is surrounded by a peripheric hollow space perforated at its edges for mingling fresh air with the flame, from which space a pipe leads into the open air.

Claim.—First, the relative arrangement of a pedestal stove A B, its front half projecting beyond the mantel front into the room, air-heating space Z, hot-air columns F H, and conical pipe G', in combination with a deflector and urn supporter K, extending from the mantel front, substantially as and for the purposes set forth.

Second, the arrangement of the cold air-pipe N, so that it receives its supply from the outside of the building, in the manner shown and described, in combination with a peripheric hollow chamber P, having perforations V, and the suspended pot Q, all the parts constructed and arranged in the relation to the combustion chamber, and to the hot air chamber of a fire place or pedestal stove, as described and represented, for the purpose set forth.

No. 32,177.—WM. BRANNAN, of Gloucester, N. J.—*Improved Washing Machine.*—Patent dated April 30, 1861.—The object of this invention is to clean clothes by passing them on a movable endless apron under a reciprocating roller frame for the purpose of rubbing them, and by squeezing the same between one of the rollers carrying the endless apron, and a gravi-

tating frame with an endless apron, in such a manner that the inner roller of the gravitating frame bears against the inner roller carrying the first endless apron by the gravity of the other roller in the gravitating frame.

Claim.—The combination of the yielding reciprocating roller frame F, corrugated platform C, and endless belt D, with the yielding gravitating frame H, and endless belt K, substantially in the manner and for the purpose shown and described.

No. 32,178.—S. P. BRIGGS, of Saratoga Springs, N. Y.—*Improvement in Hand Corn-Planters.*—Patent dated April 30, 1861.—The tube is attached to the front part of the plunger, and is cut away at its lower end on the inside, so that the seed or fertilizing material will pass into the shell and be driven into the ground with the kernels of corn in operating the plunger.

Claim.—The attachment to hand corn or seed planters of a tube, in connexion with the plunger, substantially in the manner and for the purposes set forth in my specification.

No. 32,179.—AMOS CALL, of Springfield, Mass.—*Improved Saw-Set.*—Patent dated April 30, 1861.—The object of this invention is to bend the teeth of a saw a little outwards to cause them to cut a kerf wider than the thickness of the saw plate so that the saw will run freely without binding. Hinged to a circular centre plate, which is let into the top of the body of the set, is a hammer, which is made to rotate upon a centre so that its point will fit into notches in the ends of the gauges placed on the top of the set for the teeth of the saw. Inserted under the points of each gauge are small steel bed pieces to receive the blow of the hammer.

Claim.—A rotary hammer applied to saw-sets, substantially in the manner and for the purpose described.

No. 32,180.—L. C. CHASE, of Boston, Mass.—*Improved Halter Ring.*—Patent dated April 30, 1861.—The halter ring is constructed with flanges, provided with holes, so that the straps or bands may be attached thereto by means of rivets, thereby saving the expense of the leather clasp. The outer edges of the flanges are provided with projecting rims, so that the ends of the woven straps being turned under may be covered and protected by the rims and kept from ravelling.

Claim.—Constructing a halter "*dee,*" or ring, with flanges *a a*, provided with rivet holes *b b*, and projecting rims *f f*, substantially as described and for the objects specified.

No. 32,181.—J. S. CLOUGH, of Brooklyn, N. Y., and S. S. DAY, of New York, N. Y.—*Improved Boot and Pantaloon Jack.*—Patent dated April 30, 1861.—To the front end of a stationary frame are attached jaws cast with shanks or levers extending back, and to the back end of the frame is secured a stationary heel-piece, next to which is hinged a foot-piece having on its under side a wedge which is made to press open the shanks of the jaws, causing the latter to press together upon the heel of the boot placed between them. Midway of the frame is a stirrup provided with vertical sides turned outward, for the purpose of assisting in removing the pantaloons.

Claim.—A bootjack, formed by combining the parts A B C D E F G H and I, in combination with the yoke or stirrup L, provided with the vertical jaws M M, arranged and operated substantially as described and for the purpose specified.

No. 32,182.—C. COMSTOCK and C. GLIDDEN, of Milwaukie, Wis.—*Improvement in Propelling Wheels.*—Patent dated April 30, 1861.—The paddle-shafts are attached to one end of a lever, the other end of which is secured to a friction-wheel, which revolves in the groove of a stationary cam in such a manner that the paddles will enter and leave the water in a vertical position, or nearly so, and be held in such position during the time they are acting upon the water to propel the vessel. The friction-rollers are connected with each other by hinged links provided with lugs to control the action of the levers.

Claim.—First, feathering the paddles by means of the lever, rigidly attached to the axle of the paddle, and having friction-rollers which traverse the groove of a stationary cam, as set forth.

Second, the guide or safety chain in combination with the lugs, as described.

No. 32,183.—S. B. COVER and MARSHALL SPRING, of New York, N. Y.—*Improvement in Machines for Digging Potatoes.*—Patent dated April 30, 1861.—The stationary screen is secured in the frame directly back of the scoop, and in the rear of the screen is placed longitudinally a conical revolving screen G, every alternate rod at the back of which is cut off to leave spaces for small potatoes to pass through. Within this screen is attached a spiral conveyer. At the back part of the frame and under the spaces in the screen G is a box, provided with a hinged bottom for receiving the small-sized potatoes. Behind this box, and back of the screen, is suspended a semi-cylindrical box for receiving the larger-sized potatoes. Both boxes may be emptied, when desirable, by means of cords under control of the driver.

Claim.—First, the swinging rake M and stationary screen F, when arranged with the revolving screen G, to operate as and for the purpose described.

Second, the combination of the two potato receptacles J L, arranged relatively with the rotating screen G, to receive respectively the large and small potatoes, and admit of the same being discharged in separate heaps or piles on the ground, substantially as described.

No. 32,184.—WILLIAM D. CUTLER, of Millbury, Mass.—*Improvement in Shearing Sheepskins.*—Patent dated April 30, 1861.—A series of rollers are secured in a frame, to one of which rollers the hide when operated upon is secured, which brings the wool against the points of cutters that cut the wool from the hide.

Claim.—The application of cutters, as described, in combination with roll G, No. 1, for producing the desired effect as specified and set forth in drawings and specifications.

No. 32,185.—COMMODORE DANIELS, of Barnwell C. H., S. C.—*Improved Apparatus for Training Horses or Mules to Rack.*—Patent dated April 30, 1861.—Attached to the surcingle is a strap having a square iron link, with rollers on three of its sides, for the reception of a short strap connecting two side straps, the ends of which latter are to be made fast to the fore legs above the knees, and the other two ends to the fetlocks of the hind legs.

Claim.—Arranging the straps D D G and surcingle A, in the manner and for the purpose set forth and described.

No. 32,186.—T. W. EVANS, of Philadelphia, Pa.—*Improved Telegraphic Cable.*—Patent dated April 30, 1861.—The nature and object of this invention is explained by the claim and engraving.

Claim.—The combination of wires arranged together in parallel lines and drawn into the shape of a cylindrical whole, as represented at A, by which the superficial metallic surface exposed is reduced, thus diminishing the capacity of electrical condensation, whilst the cable is secured against liability to total fracture by being made to consist of distinct strands.

Second, the deposition of a plating of pure copper, gold, or other metal upon the conductor in combination with it, as described, thus increasing its conductibility, whilst, by the slight adhesion between the several integral wires, a total exclusion of air is secured.

Third, the employment of caoutchouc in an unelastic state as the first wrapping upon the conductor for the purpose of insulation, substantially as described.

Fourth, the combination of an outer coating of gutta percha with the unelastic caoutchouc or first wrapping of the conductor, substantially as described.

Fifth, the employment of a third insulating coating of pure or vulcanized caoutchouc, and so uniting the several parts by heat or otherwise, for the purpose and substantially as described.

Sixth, the employment of a hemp or other fibrous envelope for submarine cables, when the same is treated with an antiseptic solution, substantially as described, in combination with the electrode and insulation, as set forth.

No. 32,187.—S. W. FRANCIS, of New York, N. Y.—*Improvement in Match-Boxes.*—Patent dated April 30, 1861.—This invention is explained by the claim.

Claim.—Lining a match-box A on its interior with sand-paper, or an equivalent, so that, as the matches C C are drawn from the same, they shall be readily ignited, substantially as described.

No. 32,188.—PRINCE HILLER, of Mattapoisett, Mass.—*Improvement in the Locks of Fire-Arms.*—Patent dated April 30, 1861.—The main-spring is coiled about the shaft, and the wheel is secured to the shaft by a screw, in such a manner that the tension of the spring may be regulated at pleasure.

Claim.—A main-spring coiled around the shaft, in connexion with the adjustable tumbler, the several parts being arranged as and for the purposes set forth and described.

No. 32,189.—D. HITCHINGS, of Richfield, N. Y.—*Improvement in Reapers and Mowers.*—Patent dated April 30, 1861.—A long axle A, having a loose wheel at one end, is secured at the other end by means of a box or socket to a solid frame-piece C. On the other side of the frame-piece is a short shaft, carrying the driving-wheel. This arrangement of the axles admits of their being out of direct line with each other, so that the main axle acts to brace and strengthen the opposite side of the frame. Braces extend from the frame to the axle on each side.

Claim.—The construction of the frame of the machine by the combination of the main axle A and its adjustable braces *c h* with the single cross frame-piece *c*, connected with the short axle E and box D by means of flanges *z z*, the said parts being arranged in the manner and for the purpose specified.

No. 32,190.—BENJAMIN HOSTLER, of Brookfield, N. Y.—*Improvement in Mill-Picks.*—Patent dated April 30, 1861.—The stock is provided with a lever, hinged to it so as to hold the picking tool. On the upper part of the stock is a protuberance provided with a female screw, through which works a screw on the handle, and, by pressing out the upper part of the lever, the tool is securely clamped at the lower end.

Claim.—Hinging the stock A and lever B together, so as to clamp the picking tools by means of the handle, substantially as described.

No. 32,191.—H. H. HUDSON and G. W. BILLINGS, of Cleveland, O.—*Improvement in Water-Elevators.*—Patent dated April 30, 1861.—Secured to the cover of the curb is a pointed

share or divider fitting around the centre of the pulley, to prevent the rope from crowding or overlapping. Hinged to the sides of the curb is an adjustable arm having a loop at its front part, through which passes the rope which is attached to the bail. A stationary tipper above the upper spout of the curb causes the bucket to turn as it ascends and discharge its contents through the spout.

Claim.—First, the diving share E, either with or without friction-rollers at the ends, for separating the coil of rope upon the pulley D, as specified.

Second, the arms F with the guard S', as shown, for the purpose of presenting the bucket in a right position to the spout, and causing its lateral movement towards the spout, in connexion with a movable or stationary bail or tipper L, operating in the manner and for the purpose set forth.

No. 32,192.—B. B. KENYON and J. S. BROWN, of Hopkinton, R. I.—*Improvement in Water-Wheels,*—Patent dated April 30, 1861.—The floats or buckets are curved in both directions, and are fitted to the under side of the disk which is secured to the upright shaft. The width of the buckets is equal to the internal diameter of the second or lower hollow cylinder, from the base of the wheel up to the upper edge of the lower cylinder, at which elevation the width is contracted, and the form of the wheel from thence to the upper plate is slightly conical, the edges of each bucket lying in the surface of a cone.

Claim.—Increasing the diameter of the wheel and the width of the buckets D immediately below the casing, or curb K E, in combination with the exterior rim or cylinder M, substantially as and for the purposes set forth.

No. 32,193.—FREDERICK KETLER, of Milwaukie, Wis.—*Improved Stump Extractor.*—Patent dated April 30, 1861.—This machine is operated by steam-power. It is provided in front with a borer for splitting and boring the stumps. Arranged in an oblique position is a bevelled wheel, in the outer rim of which are screwed stonecutters' chisels. In place of this wheel may be substituted a chain saw, running upon pulleys, or a straight saw may be used, as circumstances may require. A planing device may also be used, consisting of two rows of chisels secured to a plate, for paring and planing away the stump.

Claim.—First, the use of the borer V, represented in Figs. 1 and 2, employed for the purpose of splitting the stumps.

Second, the splitting or cutting wheel X, in Fig. 1, which will cut the stumps conically to any desired depth.

Third, the chain saw in Fig. 3, which is carried round by the rollers or pulleys *l* and *o*, to cut the stumps conically to any desired depth.

Fourth, the planing or paring machine in Fig 5, which is operated by the forked piece V2 and shaft 3, which machine is used for the purpose of paring or planing away the stumps conically to any desired depth.

No. 32,194.—ARCHIBALD KIRBY, of Paris, Ill.—*Improved Excavator.*—Patent dated April 30, 1861.—This machine is so constructed that upon being drawn forward the armed edge of the truck frame excavates the dirt through which it passes, at the same time filling the shovel; it may then be hauled away, and by withdrawing a pin the shovel drops in front and the dirt is emptied.

Claim.—The combination of a revolving scoop and truck frame, provided with a shovel edge C, as and for the purposes described.

No. 32,195.—W. B. LITTLE, of New York, N. Y.—*Improvement in Signs.*—Patent dated April 30, 1861.—This invention consists in cutting out the letters from a board and bevelling their outer edges, and placing at their backs a glass plate. A box in the rear of the sign contains a light, which will render the letters visible at night.

Claim.—The construction of illuminated signs in the particular manner represented and described.

No. 32,196.—HARVEY LOCKE, of South Boston, Mass.—*Improvement in Pumps.*—Patent dated April 30, 1861.—This invention is particularly applicable to the pumps of steam fire-engines, the object being to give a great opening to both the induction and eduction valves with a very small amount of motion, and at the same time to entirely empty the cylinder at each stroke of the piston. The induction valve is made annular and surrounds the end of the cylinder, so that, by a very slight motion of the valve, an opening is effected all around the cylinder. The cylinder is open at each end, and the ends are closed by disk valves, by a slight motion of which the whole end of the cylinder may be opened. The induction and eduction valves are connected by rods.

Claim.—First, the annular valve H, so constructed as to disclose when opened a water way around the whole circumference of the cylinder, as described.

Second, the disk valve G, covering the whole end of the cylinder, as described, for the purpose set forth.

Third, in combination with the valve G, the disk of India-rubber or leather confined to the piston, as set forth and operating as described

Fourth, so connecting the inlet and outlet valves together that the motion of one of them shall control the motion of the other, as set forth.

No. 32,197.—F. H. MANNY, of Rockport, Ill.—*Improvement in Harvesting Machines.*—Patent dated April 30, 1861.—This invention consists in hinging or pivoting the supplementary divider, near its forward end, to the shoe or fixed divider, and supporting it near its rear end by means of a set screw traversing a slot in an adjustable bracket, secured upon the frame in such a manner that the point of the supplementary divider may be adjusted either vertically or laterally to any desired point and retained therein. With the pivoted supplementary divider is combined a spring arranged underneath the divider, near its rear end, in such a manner as to compel the point of the divider to conform strictly to the surface of the ground, and yet permit it to yield or pass over obstacles.

Claim.—A supplementary divider pivoted near its point to the fixed divider or shoe of a harvester, in combination with an adjustable support near the rear end of said supplementary divider, substantially in the manner described, for the purpose set forth.

Also, the combination of the supplementary divider pivoted near its point to the fixed divider with a spring, substantially as described, for the purpose set forth.

No. 32,198.—D. W. MAPLES, of Homer, N. Y.—*Improved Cheese Vat.*—Patent dated April 30, 1861.—The water vat is made with a depression, in which the centre of the heat-distributor is placed; from its sides extend tubes of different lengths, which conduct the water to various parts of the vat, distributing the heat and equalizing the temperatures of the water in the vat. Joined to the bottom of the heating chamber is a stove which, in connection with a series of dampers, levers, and slides, admits of the heat being readily used and controlled by the operator.

Claim.—First, the distributor Fig. 4, and *q r r*, Fig. 1, and its application to the purpose of an equal distribution of the heat in and under a vat for cheese-making, substantially as and for the uses and purposes set forth and described.

Second, the arrangement and combination of the stove E, with its peculiar construction, substantially as shown in the drawings and specifications, and with the heating chamber D, and the dampers attached, as described and shown, and with the aforesaid distributor, Fig. 4, and with the conductor for drawing off the whey, as constructed and arranged and described in Fig. 7 of said specifications, and applied to a vat for cheese-making, as described in said specifications, and as and for the uses and purposes described.

No. 32,199.—J. W. MURPHY, of Philadelphia, Pa.—*Improvement in the Mode of Adjustment of Truss Frames of Bridges.*—Patent dated April 30, 1861.—This invention has for its object a ready means of adjusting the counter diagonal rods without the use of screws, nuts, &c., for resisting the tensile strain on the rods of the truss frames, by means of two metal blocks fitting in an elongated eye on the lower end of each counter, diagonal keys being placed in projections formed in the blocks, by which the latter are maintained in a proper lateral position and readily adjusted.

Claim.—The elongated eye on the end of the counter, diagonal rod C, its two blocks G and H, and the two keys I and J, the whole being arranged as and for the purpose set forth.

No. 32,200.—DARIUS MUSSELMAN, of Lucas county, Ohio.—*Improved Combined Steam and Hot-air Engine.*—Patent dated April 30, 1861.—The soot and ashes are prevented from being carried into the hot-air space and thence into the generator, by means of a peculiarly-formed pipe which conducts the hot air from the furnace to the hot-air space. The side of this pipe has a slit or seam in its whole length communicating with the ash-pan. A device similar to the twist of an augur extends through the whole length of the pipe, which imparts a whirling motion to the air and causes the soot and ashes borne along with the air to be thrown through the slit in the pipe into the ash-pan. A portion of the hot air also re-enters the furnace, becomes reheated, and passes into the pipe as before.

In a short tube attached to the pipe connecting the generator with the engine works a plunger, the upper end of which is attached to a lever made adjustable by a notched post against which the lever is pressed by a spring rod. The other end of the lever is attached to a spring provided with a pointer to indicate the amount of pressure on the plunger. The fuel-feeder contains two valves formed of arched metal plates, into the space between which the fuel is first placed, when the lower valve is opened and the fuel falls upon a door and thence into the furnace, the door being returned to its position by means of springs.

Claim.—First, the arrangement of the devices, as set forth, by which soot or ashes is prevented from entering the generator, which devices also return a portion of the hot air and gases to the furnace to be reheated.

Second, the arrangement of the plunger N, and the devices connected with it, by which said plunger acts as a safety-valve, pressure indicator, and regulator of the air-passages for limiting the amount of motive power produced, substantially as set forth.

Third, the arrangement of the feeder for introducing fuel into the furnace without permitting the escape of the condensed air contained in the air-space surrounding the furnace, substantially as set forth.

No. 32,201.—JOHN NEWMANN, of New York, N. Y.—*Improvement in Faucets.*—Patent dated April 30, 1861.—The object of this invention is to prevent the beer once drawn through the faucet from returning through again to the barrel, and at the same time allow the beer to be drawn from the barrel either with or without a pump, like a common beer faucet.

Claim.—The chamber B, on faucet tube A, having arranged within it the valve *c* and the screw-stem D, with its enlargement *g*, all arranged and operating substantially as and for the purposes set forth.

No. 32,202.—GEORGE NORRIS, of New York, N. Y.—*Improvement in Filters.*—Patent dated April 30, 1861.—The screw-socket, by which the case is secured to the water pipe, is perforated at its bottom. Under this socket is a sponge resting upon a perforated plate having a tube extending down from its centre, and within a tube provided with a screw on its lower end working in a screw-hole in the bottom of the case. By screwing up the lower tube the sponge is compressed by the plate and rendered compact so as to form a filtering medium, and when filtered water is not required the sponge is allowed to expand and the water passes freely through it.

Claim.—The combination of the perforated compression and discharge screw or tube E and plate C with the filtering material B and case A, in the manner and for the purposes substantially as described.

No. 32,203.—A. RANDEL, of New York, N. Y.—*Improvement in Preparing Paper Stock.*—Patent dated April 30, 1861.—The object of this invention is to separate the hard, worthless portion from the useful fibrous part of the vegetable material used for paper stock, before it is submitted to the bleaching process.

Claim.—The combination of the differentially moving crushing-rollers with the shredding cylinder E and spiked concave P, substantially in the manner and for the purposes shown and described.

No. 32,204.—G. W. RAINS, of Newburgh, N. Y.—*Improvement in Steam-Boilers.*—Patent dated April 30, 1861.—The lower water chamber and the upper water and steam chambers are connected by a series of upright concentric water-tubes. Within the inner series of tubes is arranged the horizontal circular grate, and between the lower parts of the inner tubes are upright fixed bars or plates, to make the fire-box. Fitted inside the lower opening of the door-frame is an upright grate, for the purpose of admitting air to the fuel. Opposite the door-frame is left a wide space between two of the outer tubes, and opposite this space is an aperture in the sheet-iron curtain which surrounds the outer tubes, from which aperture a short flue fitted with a damper leads through the outer casing to the chimney, to be used when starting the fire and getting up steam.

Claim.—First, the upright grate P, applied in relation to the grate E, and in combination with the circular series of tubes C C, and their interposed bars or plates F F, substantially as and for the purpose specified.

Second, the flue Q and damper R, applied in combination with the curtain G and the chimney I, and the wider space *c*, between the tubes D D, substantially as and for the purpose specified.

No. 32,205.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Steam-Engines.*—Patent dated April 30, 1861.—This invention consists in so combining a variable cut-off and a throttle valve under the control of a governor or other controlling device, with which both are connected, that the cut-off will operate alone, as the regulator, while it can do so economically, the throttle valve being in the mean time inoperative and open; and that when the cut-off, to continue regulating, would require to operate so early in the stroke of the piston that its use would cease to be attended with economy, or be less economical than the use of the throttle valve, its further operation will be suspended or checked, and the throttle valve shall be brought into operation as the regulator.

Claim.—So combining a variable cut-off and a throttle valve, in connexion with a steam-engine, that the cut-off only will act as the regulator, when the engine is subjected to a resistance which requires the admission of the steam beyond a certain point in the stroke of the piston, and the throttle valve only will act as the regulator when the engine is subjected to less resistance, substantially as specified.

Also, so constructing and applying a variable cut-off gear, which is combined with a throttle valve, as above specified, that as the throttle valve closes the cut-off will operate later in the stroke of the engine, substantially as described.

No. 32,206.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Safety Plugs for Steam-Boilers.*—Patent dated April 30, 1861.—The objects of this invention are: 1st, to cause the plug to take effect while the crown sheet, or that plate of the body of the boiler in connexion with which the plug is placed, is still covered with sufficient water to prevent injury to the boiler; and 2d, to cause the heat to be rapidly transmitted from the plug to the water, until the water gets below a safe level, and then to be retained in and around the plug, for the purpose of melting a ring of fusible metal, by which the plug is held in place, or of making

the plug, by its longitudinal expansion, operate an alarm device, or tear itself from the boiler.

Claim.—First, the combination of the ring or plug *b*, of fusible metal of inferior conducting capacity, and a central plug C, of infusible metal of superior conducting capacity, substantially as specified.

Second, the tube *d*, combined with the plug C, substantially as and for the purpose specified.

Third, the combination with the safety plug of a tube open at the top for the reception of water, closed at the bottom by the plug, and permanently attached to the boiler, substantially as illustrated by A and H, Figs. 1 and 4, as specified.

Fourth, the combination of the tube *d*, attached to and surrounding the plug C, and the fixed tube A, surrounding the said tube *d* and the plug, substantially as and for the purposes specified.

Fifth, the screw F, applied in combination with the plug C, substantially as and for the purposes set forth.

No. 32,207.—J. W. Ross, of Boston, Mass.—*Improvement in Inkstands.*—Patent dated April 30, 1861.—The vessel containing the ink is provided with a lip at its top, and rests within a socket in a stand or top of a desk. In the upper part of the socket is a female screw receiving a male screw attached to a thin top plate, in which is a square or polygonally-shaped opening to fit a suitable key, by which the plate is turned and the inkstand secured. To the top plate is also attached a tube extending into the ink vessel, in which is a float having an orifice through its length. When the top plate is screwed down, the lower surface of the stopper presses against the bottom of the well, and serves to render the same air-tight.

Claim.—First, the use of the float *k*, travelling in a suitable guiding-tube, and operating substantially as described.

Second, the peculiar construction of the inkstand, by which I am enabled to lock it in or remove it from its stand or desk, the same consisting substantially of the screw *h* and top plate *i*, attached to or forming a part of the ink fountain, and a polygonal-shaped opening of suitable form to receive a key, as described.

No. 32,208.—J. B. Root, of Battle Creek, Mich.—*Improvement in Rotary Engines.*—Patent dated April 30, 1861.—The pistons, consisting each of a flat plate of metal, have attached to them an arc-formed piece of metal fitted to a circular groove in one of the cylinder heads, the groove being concentric with the inner periphery of the outer cylinder. The pistons are received within slots in the drum, and each piston is fitted with two cylindrical segment pieces of a length equal to the width of the pistons, which, besides serving to control and direct the oscillating and radial movements of the pistons, serve also as packing pieces.

Claim.—The employment, in connexion with the outer cylinder A, eccentric piston drum C, and rigidly constructed pistons F F, of arc-formed pieces *a a*, attached rigidly to the pistons and fitted to concentric grooves in the heads of the cylinder and segment pieces *d d*, fitted to the pistons and to bearings in the rotating drum, the whole combined substantially as described.

No. 32,209.—William Rowe, of Charlestown, Va.—*Improvement in Machines for Threshing and Cleaning Clover.*—Patent dated April 30, 1861.—The threshing cylinders are both placed upon one and the same shaft, and, with their concaves, are separated from each other by a dividing ring. One of the cylinders is covered with a perforated metallic casing, through which teeth of any desired size and form may be driven, for receiving the cut grain, stalks, and heads. The other cylinder, with its concave, is provided with teeth of a finer character, for operating upon sacks and bowls after they have been acted upon by the first cylinder. In the rear of the cylinders is a revolving screen cylinder, into the open end of which the moving mass of straw, &c., is carried by the force of the cylinder and the current of air caused by the fans. The sacks and bowls are directed back towards the threshing cylinders by means of a screw *h''* over a grate through which the seeds drop to the screens below. The revolving screen is supported within a box by gear-wheels, which operate a small gear on the end of a shaft, provided with a screw *h'*, to work in a suitable concave below it.

Claim.—First, the combination of two threshing cylinders with a clover-separating machine, when said cylinders are arranged to rotate on the same axial line, the cylinders operating independently, as and for the purposes stated.

Second, the combination of the cylinders C C' with their concaves C'' and C''', substantially as and for the purposes stated.

Third, the combination of cylinders C C' with feed-box D, blast and section fan *e*, screen G', and screw *h''*, substantially as and for the purposes stated.

Fourth, the combination of screen G' with the box-frame C*, and screw-shaft *h'* with its guide-gears, as and for the purposes set forth.

Fifth, making the feed-box D so that it, together with the parts connected therewith, as shown in Fig. 2, can all be removed, as and for the purposes stated.

Sixth, so making and connecting the parts shown in Fig. 5 so that they can be quickly detached for repairs or examination of the machine.

Seventh, a clover threshing and cleaning machine, in which the parts are constructed and combined to operate in relation to each other as shown and described.

No. 32,210.—GEORGE W. SOULE, of Freeport, Me.—*Improved Rigging Clasp.*—Patent dated April 30, 1861.—Two semi-cylindrical pieces of metal, having their inside surfaces suitably grooved, are connected together on one side by an adjustable strap-hinge, or its equivalent, and combined with a tapering link which plays through eyes on each half of the griping portions, and operates to open and close the parts.

Claim.—Combining with the two griping jaws A B the hinged fastening *c*, and the tapering link C, working in eyes *a a'*, substantially and for the purposes set forth.

No. 32,211.—DAVID J. STARRETT, of Thomaston, Me.—*Improved Coal Sifter.*—Patent dated April 30, 1861.—This invention is explained by the claim and engraving.

Claim.—Constructing the revolving screen B so that one end shall project out through a closely-fitting aperture *a*, in one side of the closed case A, and turn therein as a bearing, so that, in connexion with a removable cap C, or its equivalent, the coal may be put in and taken out of the screen without removing the same from or exposing the interior of the case, substantially as and for the purposes specified.

No. 32,212.—ALFRED SWADKINS, of South Boston, Mass.—*Improved Steam Cock.*—Patent dated April 30, 1861.—The two valves are combined and arranged with one stem by means of a swivel or other device, by which both valves or the upper one only may swivel or be turned around with respect to the stem. The valve-operating screws are arranged between the auxiliary valve and the stuffing-box or its screw-cap, the object being to prevent leakage of the condensation of the escaped steam.

Claim.—The combination and arrangement of the two valves B I with the swivel O, of the stem C, such valves being constructed and connected by screws, or mechanical equivalents therefor, substantially as specified.

No. 32,213.—JAMES H. SWETT, of Pittsburg, Pa.—*Improvement in Spike Machines.*—Patent dated April 30, 1861.—The arms that carry the heading tool forward and back are so arranged on the outside of the main frame as that they shall have the support of the main frame to resist the lateral or wabbling motion of said heading tool, and thus enable the header to make uniformly-shaped heads, and true, on the shank of the spike. The journals or supports of the arms that carry or operate the header are hung in curved slots, for the purpose of changing the inclination of the header. The ways upon which the nipper slide works are made adjustable for the purpose of causing the nippers to gripe more or less hard upon the blank for drawing forward more or less of the blank, or to separate it entirely from the rod, in case the pointing dies fail to separate it. An adjustable sliding arm on the crank arm is designed to give the nippers more or less advancing motion, so as to draw out from the rolls or dies more or less of the blank or spike rod to form the head as may be required by the heat on the rod or blank, or by the working of the machine.

Claim.—First, supporting the header against lateral vibration by means of the shaft *b* and arms O O, the latter moving against the outside of the frame, substantially as described.

Second, hanging the journals of the rock-shaft P, to which the header is connected in curved slots, for the purpose of changing the inclination of the header, to correspondingly change the position of the head upon the finished spike, substantially as described.

Third, the adjustable ways S S, for the purpose of so clamping the slide R as that it shall not move by the weight or friction of the second slide T until forced to move with it, substantially as and for the purpose described.

Fourth, the adjustable slide H, in the arm G, for the purpose of varying the motion of the nippers in relation to the motion of the header, and to draw out more or less of the blank, as the condition of the heated bar may require, as set forth.

No. 32,214.—JAMES M. TOLLEY, of Big Lick, Va.—*Improved Washing Machine.*—Patent dated April 30, 1861.—The journals of the lower series of rollers are secured at their inner ends in a hub at the lower end of the upright stem, the outer ends turning in blocks fixed to the tub. The upper series is supported by a hub and hangers in the upper disk.

Claim.—The combination of the two sets of rollers *c c'* with each other and with the disks A B, when the rollers upon the disk A are arranged to cross those of the disk B, all in the manner shown and described.

No. 32,215.—DANIEL H. VIALL, of Schaghticoke, N. Y.—*Improvement in Grain Cradles.*—Patent dated April 30, 1861.—The bolt by which the finger-brace is secured to the swath is made of metal, and provided with a wedge-shaped bolt. The bolt is passed through the swath, and a transverse hole being made in the same, the finger-brace is inserted, and passes through the widest part of the slot. A blow on the wedge causes it to press the finger-brace into the narrow part of the slot, which thus firmly secures it.

Claim.—The slotted bolt *f*, constructed as described, in combination with the brace of a grain cradle, for the purpose set forth.

No. 32,216.—THOMAS S. WHITENACK, of Easton, Pa.—*Improvement in Harvesting Machines.*—Patent dated April 30, 1861.—To the inner end of the reel-shaft is attached a metal plate or head, which has ears or lugs projecting from its face at right angles. To each ear

are attached by bolts or screws two arms or braces, working freely on the bolts or screws. To the outer ends of the arms are attached adjustable bars, forming beaters to act upon the grain in front of the sickle. To the back part of the main frame are attached two curved or segment bars, one at each side, and each provided with two curved slots, through which pass bolts which secure the arms to the segment bars, the outer ends of the bars serving as bearings for the reel-shaft. The segment bars form segments of circles, of which the shaft of the driving-wheel is the centre. The reel may be raised or lowered by adjusting the arms on the segment bars.

Claim.—Constructing the reel-head G, with plane plates or cars *e*, for the attachment of the adjustable arms *f g*, in combination with the said adjustable arms and the adjustable bars *k*, all as set forth.

Also, the arrangement of the slotted supporting segments E E', having their sweep concentric with the axis of the driving-wheel B, in combination with the adjustable arms *d*, shaft F, and the reel, in the manner and for the purpose shown and described.

No. 32,217.—HUGH H. WHITNEY, of Waterford, Pa.—*Improvement in Beehives.*—Patent dated April 30, 1861.—The entrance of the hive is provided with an adjustable slat, to the lower edge of which small gravitating sections are hinged, so as to allow them to swing outwards only. The slat is adjusted so as to leave space enough under the trap for the working bees to pass out; the drones can also pass out, but are prevented by these devices from returning.

Claim.—Constructing the hive by dividing the rectangular box A by the oblique partition B, so as to form a sheltered area around the entrance, a triangular apartment for the swarm, with the passage G, at the lower angle thereof, and hanging supplementary chambers or boxes E immediately back of the same, communicating therewith by means of the passage or passages *h*, the whole being provided with the means of ventilation by the holes *g* at or near the near entrance G, the whole arranged and combined substantially in the manner and for the purpose shown and described.

Also, the device for graduating the entrance to the passage G, consisting of the adjustable slot H and hanging traps or doors *j*, constructed and operating substantially as and for the purposes set forth.

No. 32,218.—SOLOMON FRY, of Monongahela City, Pa.—*Improved Door Lock.*—Patent dated April 30, 1861.—This invention consists of an arrangement of springs, bolts, levers, &c., so operated that the inside knob, used for operating the spring bolt, will remain operative, while the outside knob can be operative or inoperative at pleasure, without affecting the action of the inside knob; and in locking the door on the inside the keyhole guard will close the outside keyhole of the lock, and when locked, either from the inside or outside of the door, the lock-bolt and spring-bolt will be held securely in their place.

Claim.—The arrangement of the keyhole guard *h*, springs *i* and *r*, bolts *s* and *j*, levers *q* and *t*, click *k*, and cams *o* and *p*, arranged, constructed, and operated substantially as described, and for the purpose set forth.

No. 32,219.—JOHN MCAULEY GALLACHER, of Roxbury, Mass.—*Improvement in the Construction of Gas Retorts.*—Patent dated April 30, 1861.—The retort is constructed with lugs projecting from the outside surface of the retort, and forming the support of longitudinal ribs for the purpose of holding the cement, which is placed on the outside of the retorts, to preserve them against the injurious influence of the fire.

Claim.—The construction of the retort with longitudinal ribs and projecting lugs, as shown and described.

No. 32,220.—G. W. GOULD and P. W. GOULD, of Evans, N. Y.—*Improved Washing Machine.*—Patent dated April 30, 1861.—This invention consists in the employment of reciprocating rubbers, in combination with a stationary frame and a flat corrugated bottom box.

Claim.—The employment of the double reciprocating rubbers D D, used in connexion with stationary frame B, substantially as and for the purpose set forth.

No. 32,221.—WILLIAM M. GRISCOM, of Philadelphia, Pa.—*Improved Shutter Fastener.*—Patent dated April 30, 1861.—This invention relates to a shutter fastener so constructed and arranged that the bolts shall serve to retain the shutters in a partially open state; and the improvement consists in a construction of parts for tightening the bolts at any point to which it may be adjusted, and for preventing the rattling of the shutters.

Claim.—The bolt D, its notch *y*, the stud E, and disk F, with its inclined planes, in combination with the plate B, and its socket *d*, the whole being constructed as and for the purpose set forth.

No. 32,222.—W. H. GWYNNE, of New York, N. Y.—*Improvement in Apparatus for Naphthalizing.*—Patent dated April 30, 1861.—In connexion with a gas fixture is arranged a reservoir containing a quantity of carbonizing liquid, in such a manner that the gas is compelled to pass through this liquid just before it reaches the burner, and that the hydro-carbon

vapors, which are taken up by the gas in passing through the liquid in the reservoir, have no chance to form a deposit before they pass out from the burner. The tube which conducts the gas from the pipe into the reservoir and the liquid contained therein is made adjustable by turning it, so that its mouth may be set at a greater or less distance below the surface of the liquid, and according to the larger or smaller quantity of hydro-carbon vapors which it is intended to incorporate with the gas.

Claim.—First, the use of a reservoir for containing a liquid hydro-carbon attached to the gas fixture, and provided with a pipe communicating directly with the burner, substantially as shown and described, and for the purpose explained.

Second, the arrangement of the revolving pipe B, and reservoir A, in combination with a gas burner, substantially as and for the purpose described.

No. 32,223.—F. B. HALL, of Hartford, Conn.—*Improvement in Car Coupling.*—Patent dated April 30, 1861.—This invention consists in a bow or U-shaped bolt, one arm of which is round and is supported in a round socket or guide in which it can turn, and the other arm of which is flat, and drops through an oblong slot in the top and bottom of the buffer, and is provided with a shoulder to support it previous to the coupling operation, both arms being furnished with collars to prevent them from dropping too far through their respective openings. A counterpoised link is made to set in the buffer, so that its projecting end shall maintain a horizontal position and always freely enter the buffer of the car that is to be coupled to it.

Claim.—First, in combination with a hopper-head and a permanent bolt support connected thereto, a bow or U-shaped bolt constructed, arranged, and operating therewith, substantially as described.

Also, a counterpoised or overpoised link, the weighted end of which will fairly sit in its buffer-head and hold the projecting end in a horizontal position so that it will fairly and truly enter the buffer-head that it is to be connected with, substantially as described and for the purpose set forth.

No. 32,224.—WM. L. HALLER, of Philadelphia, Pa.—*Improved Scrubbing Brush.*—Patent dated April 30, 1861.—This invention is explained by the claim and engraving.

Claim.—A scrubbing brush composed of strips of India-rubber or analogous material, clamped in dovetail grooves in the body of the brush, and projecting from the face thereof, substantially as shown and described and for the purpose specified.

No. 32,225.—HENRY HARTWIG, of New York, N. Y.—*Improvement in Locks.*—Patent dated April 30, 1861.—The key-bit is arranged in the inside of the lock, forming part of the same, in such a manner that before being able to act upon the bolt it has to be lifted over a projection by the action of the key, which latter is connected to the key-bit, for the purpose of operating the lock at a point outside of the centre of motion, both the key-bit and the key turning loosely upon a key-bolt.

Claim.—The arrangement or the key-bit E, in a lock, turning loosely upon the key-bolt D, when said key-bit is combined with a projection or stop F, fast on the lock-case, in the manner and for the purpose set forth.

No. 32,226.—HENRY HARTWIG, of New York, N. Y.—*Improvement in Locks.*—Patent dated April 30, 1861.—This invention consists in the arrangement of a slide or wedge operated by a spring so as to cover up partly the keyhole, the slide or wedge being pressed clear of the keyhole by the introduction of a wedge-shaped key.

Claim.—The arrangement and use of a wedge-shaped sliding piece E, covering up the lower part of the keyhole, and operated by the introduction of the wedge-shaped bit of the key, as described.

No. 32,227.—GEORGE HARLAN, of Brownsville, Ind.—*Improvement in Seeding Machines.*—Patent dated April 30, 1861.—The seed-tubes or spouts are attached to the rear ends of arms, the front ends of which are fitted on the end of a transverse shaft, and to the back part of each arm is a spring connected by a rod, which tend to keep the tubes out from the frame, by which means a lateral self-adjusting movement is allowed the tubes, and the seed sown in the spaces between the hills of standing corn. A series of levers and cams are so arranged as to graduate the amount of seed to be sown over a given area.

Claim.—First, the tubes P, attached to bars or arms Q, jointed and provided with springs S, substantially as shown and described, to admit of a self-adjusting lateral movement of said tubes, for the purpose set forth.

Second, the combination of the cams D, slides F, and levers T U, when the latter are connected by adjustable links *k k*, and all arranged as and for the purposes set forth.

No. 32,228.—A. C. BARSTOW, (assignor to the BARSTOW STOVE COMPANY,) of Providence, R. I.—*Improvement in Cooking Stoves.*—Patent dated April 30, 1861.—The heat is passed to both ovens by a single set of flues, thus dispensing with the use of dampers. Between the two ovens and separating the same is a movable plate, by removing which the

roasting oven can be connected and used in combination with the baking oven, when necessary.

Claim.—In cooking stoves of square or quadrangular form, having in addition to the ordinary baking oven parallel to and on the opposite side of the fire-chamber a roasting oven, the arrangement described of the fire-chamber and ash-pit, in combination with a movable plate or its equivalent, so that the said roasting oven may be used separately from or in connexion with and as an enlargement of the baking oven, substantially as set forth.

No. 32,229.—THEODORE BURR, assignor to Himself, C. L. BURR, S. W. MCCREA, L. H. BRINKERHOFF, and PARCEL BRINKERHOFF, of Battle Creek, Mich.—*Improvement in Fracture Apparatus.*—Patent dated April 30, 1861.—The operation of the toggle-braces, by making the extension in a right line, is designed to obviate the imperfections of unskillful practitioners, and to remove the inconvenience of storing an outfit for each and every different length of limb subject to be broken.

Claim.—The application of the toggle-braces D, operated upon by a screw, in connexion with extension splints, operating as described and for the purpose set forth.

No. 32,230.—EDWIN CAMPBELL, assignor to EDWIN HEATH, of Bath, Me.—*Improved Edge Key.*—Patent dated April 30, 1861.—To one end of a wooden handle is attached a metal shank, in which fits a four-sided metal block, having its sides of a contour suited to give the required shape to the edge of the sole. The key is held in position by means of a small metal block sliding in a recess in the shank, against which block a rod extending through the handle is made to press by a thumb-screw working in a cap on the handle, by which means the key-block may be readily adjusted to soles of different thicknesses.

Claim.—As an improved article of manufacture, a boot and shoe key, in which the parts are constructed and combined to operate in relation to each other, as shown and described.

No. 32,231.—VALENTINE FELKER, assignor to Himself and RUFUS JONES, of Carmel, Me.—*Improvement in Ploughs.*—Patent dated April 30, 1861.—Attached to the beam is a lever connected to two jaws vibrating on one end of the beam, their lower ends holding a wheel; by drawing back the lever the wheel is depressed and the plough raised above the ground.

Claim.—The arrangement of the plough holder, as constructed, of parts N H I F E and I, attached to plough A, with plough governor B, operating as described and for the purposes set forth.

No. 32,232.—RICHARD GORNALL, assignor to Himself and WILLIAM J. HOOPER, of Baltimore, Md.—*Improved Machine for Making Bullets.*—Patent dated April 30, 1861.—Extending above and below the bed are knees, constituting sockets for the punches and matrix to work in. Within a cross-head is a cylindrical matrix journal, by which the latter is raised and lowered at proper times, through the medium of links, a lever, and connecting rod, attached to the rear end of the lower lever. Journalled in the upper knee, concentrically with the matrix, is a core, provided at its lower end with a conical projection, to form the cavity in the bullet, and held against longitudinal motion by a collar engaging beneath a shoulder in the knee. A screw projecting through the matrix into a longitudinal groove in the core affords the former a longitudinal motion independently of the latter, but compels them to rotate in unison. The blank being compressed within the matrix, is securely held from turning by the small part of its heel.

Claim.—First, the solid matrix E, operating in connexion with a suitable punch and core to first compress the bullet and then hold it as a chuck or mandrel to be turned, substantially as set forth.

Second, the cross-head F, links G, lever H, and rotary core L, operating in connexion with the matrix E, to impart an intermittent vertical and rotary motion thereto, substantially in the manner explained.

No. 32,233.—T. C. HARGRAVE, assignor to H. M. CRANE, of Schenectady, N. Y.—*Improvement in Harvesting Machines.*—Patent dated April 30, 1861.—By means of the arrangement of the wheel in an inclined position, a large toothed wheel may be employed, and a proper speed thereby attained for driving the sickle in a direct and simple manner, two gear wheels only being employed.

Claim.—Having the driving shaft D arranged in an inclined position, as shown and described, so that a toothed wheel E of larger diameter than the driving wheel B may be employed on said shaft, all as set forth, for the purposes specified.

No. 32,234.—WILLIAM H. HOPE, of Washington, D. C., assignor to T. B. FLORENCE, of Philadelphia, Pa.—*Improvement in Street-Cleaning Machines.*—Patent dated April 30, 1861.—The shovels or scrapers are attached to shanks or handles that move independently up and down in a frame in the rear of the machine, and are provided with a pin, which prevents their falling out when the frame is raised by a lever extending to the driver's seat. A conveyer, made of slats and buckets, carries the substance swept up into a box, the bottom of which is hinged and provided with a latch spring and cord leading to the driver's seat, by which the load may be dropped when necessary.

Claim.—First, the peculiar construction and arrangement of the shovels or scrapers *s*, as described, in combination with the endless apron or conveyor *c*, frame F, and lever L, for the purposes specified.

Second, the combination with the hinged frame F and hinged bottoms B B of the levers L and *l*, the latch, spring, and cord, or its equivalent, constructed and arranged in relation to the driver's seat, in the manner and for the purpose specified.

No. 32,235.—J. J. McCORMICK, of Paterson, N. J., assignor to Himself and J. L. CANFIELD, of New York, N. Y.—*Improved Spring Bed Bottom.*—Patent dated April 30, 1861.—The ends of the spring are secured to the upper side of a slat by a screw, which passes loosely through the slat and ends of the spring into a block, which forms a cushion for the spring, and determines the amount of motion to the latter.

Claim.—The employment of the cushion C, in combination with the spring A and screw *a*, substantially as described and for the purpose specified.

No. 32,236.—JOHN SHINN, of Leverington, Pa., assignor to Himself and B. H. JENKS, of Bridesburg, Pa.—*Improvements in Looms.*—Patent dated April 30, 1861.—The jacks are connected to the heddles by cords passing over pulleys. A blade is set in the central part of the jack and hung on a centre pin, on which it freely works. On the back of the jack are two notches, at equal distances from the centre. The notches are at such a distance apart as is required for the movement of the heddles to which the jack is attached. The edges of the blades are inclined from the centre to the end when either end is out, and as the jack moves either up or down, the blade acts as an inclined plane and will force the needle out, and at the same time, the blade being out at that end, it will allow a pin fastened to the spring to drop into a notch in the jack, and thereby firmly hold the jack and heddle in that position until changed by the pattern on the chain.

Claim.—First, constructing each jack in such a manner that after having given a full movement to the heddle in either direction, up or down, it will be held in that position independent of the others until relieved by the pattern cylinder or chain, as described.

Second, making the edges of the blades on the jacks inclined or bevelled from the centre out to each end, so that by pressing one end of the blade into the jack the other end from the centre out will form an inclined plane, and force the needle out to be ready for the next movement of the cylinder or chain.

No. 32,237.—S. W. WARREN, of Brooklyn, N. Y., assignor to Himself, T. C. BANKS, and JOHN THOMPSON, of New York, N. Y.—*Improved High and Low Water Indicator for Steam Boilers.*—Patent dated April 30, 1861.—The expansion pipe is located slightly below the usual and proper water level, so as to remain always full of water, except when the water in the boiler falls below the level of the pipe, when steam, occupying the space of the water, will heat the pipe and cause its expansion, and a consequent alarm. At one end of this pipe B is a pipe *e* that passes down in the form of a siphon and enters the boiler some distance below the surface of the water. An ascending pipe passes into the boiler at a point as high as the greatest level to which it is safe to fill the boiler. A glass inspection gauge is arranged in such a manner that the connexions thereto can be shut off without interfering with the action of the indicator.

Claim.—First, the siphon pipe *e*, in combination with the expansion pipe B, arranged in the manner and for the purposes set forth.

Second, introducing the pipe *d* into the steam-boiler at the level of the greatest height to which the water is to be supplied, so as to produce a high-water indicator by the circulation of hot water through the expansion pipe B, for the purposes set forth.

Third, the arrangement of the glass indicating gauge *f* and valves or cocks *n n*, in combination with the pipes *d* and B, for the purposes set forth.

No. 32,238.—J. S. BUTTERFIELD, of Philadelphia, Pa.—*Improvement in Breech-loading Ordnance.*—Patent dated April 30, 1861.—The solid bed-piece is designed as a secure bond between the barrel and breech of the cannon during the act of firing; the tapered end of the screw being forced into the rear of the barrel previous to every discharge forms a thoroughly tight joint, and is designed to compensate for the expansion of the barrel caused by rapid firing.

Claim.—First, the combination of the pivoted barrel A, solid bed and breech-piece B J, and pivoted lock-piece C, constructed, arranged, and operating substantially as and for the purpose set forth.

Second, the combination of the taper-ended breech screw F *f'*, pivoted barrel A, perforated lock-piece C D, and solid bed and breech B J, in the manner and for the purposes shown and explained.

No. 32,239.—SAMUEL COMFORT, jr., of Morrisville, Pa.—*Improvement in Sewing Machines.*—Patent dated May 7, 1861.—To the top of the stationary arm is secured an inclined pillar, and in front of the latter is attached a bar by means of a set screw, between the head of which and the bar intervenes a helical spring. The needle-thread passes from the spool

through an orifice in the pillar, and upwards between the latter and the bar. When, by any accident, the free unwinding of the thread from the spool is interrupted or retarded, the top of the bar will be pulled forward by the thread, and the friction previously imparted will be removed, the spring bar recovering its position upon the removal of the obstruction, thus rendering the tension self-relieving.

Claim.—Imparting tension to the needle-thread, for producing the necessary tension on the same, by means of a coiled or other suitable spring *f* and bar G, or its equivalent, and the pillar I, or other suitable stationary object, when the fulcrum of the said bar, the thread guide on the same, that part of the bar acted on by the spring, and the orifice in the pillar for the passage of the thread are so situated in respect to each other, and to the direction taken by the thread itself, that any retarding of the latter or interruption of its progress towards the frictional surface will remove the friction caused by the bar, as set forth.

Also, the combination of the spring T with the discoidal shuttle, when the said spring is so situated in respect to the orifice *v*, and in respect to the direction of the thread from the shuttle-spool to the fabric, that any retarding or interruption of the free passage of the thread from the spool will be the cause of removing the friction on the thread between the spring and case, as specified.

No. 32,240.—WALDO P. CRAIG, of Newport, Ky.—*Improved Cotton Press.*—Patent dated May 7, 1861.—The screw box to which the toggle arms are connected, after passing the screw at the upper end, is, when the shaft is reversed, thrown in proper connexion with the threads of the screw by its own weight and that of the toggle arms, while at the lower end the coiled spring loosely slipped on between the screw and collar is designed to throw the box in place when an upward motion is required.

Claim.—The peculiar arrangement of travelling box and follower C *c c c* D *d d*, toggle arms E E, screw shaft G *g g*, and spring H; the whole being combined and adapted to operate substantially as set forth.

No. 32,241.—JOSEPH DALTON, of Brooklyn, N. Y.—*Improvement in Knitting Machines.*—Patent dated May 7, 1861.—This invention consists in making the cylinder containing the needles upright and stationary, the needles in the cylinder being fixed at equal distances from and parallel to each other, and the feeding and casting-off apparatus revolving around and within said cylinder. To a portion of the cylinder is attached a cam in such a manner that, by the intervention of a bent lever, the machine is made to put less yarn into the loops during a portion of the revolution, thus forming the instep of the stocking, or narrowing any portion of the garment being knitted.

Claims.—The stationary upright cylinder with the needles fixed thereto at equal distances from and parallel to each other, combined with the feeding and clearing apparatus revolving around and within said cylinder.

Also, the bent lever V, in combination with the cam *m* and feeding apparatus.

Also, the peculiar shape of the cloth-presser or slide P, combining the double duty of equalizing the strain and carrying the cloth below the barbs of the needles, all substantially as described and for the purpose set forth.

No. 32,242.—GEORGE R. DEAN, of Mayville, N. Y.—*Improvement in Printing Presses.*—Patent dated May 7, 1861.—This invention consists in an arrangement of parts, by means of which, as the lever is brought down, the type rollers will pass over the form and run down upon the distributing table out of the way, while the fountain roller will run down to the fountain and take ink. The lever being raised, the type rollers will run up over the type, and the fountain roller up to the distributing table.

Claim.—The arrangement of roller levers H H, roller J, arms *c c*, type roller, rotary inking table D, bed C, lever F, and rod G, with each other, and with the hinged impression levers B L, in the manner and for the purpose shown and described.

No. 32,343.—DAVIS H. DOTTERER, of Memphis, Tenn.—*Improvement in Journal Boxes.*—Patent dated May 7, 1861.—Within the journal box is arranged a ring or cylinder of light flexible metal so as to act as spring, and resting upon the circumference of the axle bears against the circumference of a grooved sheave or pulley in the lower part of the axle box. As the metal ring revolves with the axle it carries up to the latter a quantity of lubricating material from the lower part of the box. Upon the end of the journal is a sliding block or bearing.

Claim.—First, the employment, in combination with a journal box A, axle C, and revolving sheave or pulley D, of an endless metallic band F, which serves as an anti-friction bearing for the journal of a car axle, also as a spring cushion for the same, and likewise as a means for elevating the lubricating or cooling material to the wearing surfaces, substantially as described.

Second, in combination with the band F, pulley D, journal box A, and journal C', the end sliding block *a*, in the manner and for the purpose described.

No. 32,244.—HENRY FISHER, of Alliance, Ohio.—*Improvement in Mowing Machines.*—Patent dated May 7, 1861.—The draught frame is attached adjustably to standards project-

ing above the axle of the driving-wheel. Secured in front of the axle are handles so arranged as to be set at any height to suit the convenience of the operator. The end of the finger bar is made straight, and by means of a screw is tightly clamped between the track-clearers and shoe, the latter being formed with vertical flanges for supporting the finger bar and track-clearer at the side and rear.

Claim.—First, the combination of the projecting standards L L, and adjustable pivoted handles M M', when used in connexion with a finger bar P, located in the rear and extending on one side of the driving-wheel A, all as shown and described, and for the purposes explained.

Second, the lock joint at the outer end of the finger bar, formed of the shoe T, flanges *t t'*, track-clearer Q, and screw U, constructed and applied in the manner and for the purposes explained.

No. 32,245.—ALEXANDER FREY, of New York, N. Y.—*Improvement in Looms.*—Patent dated May 7, 1861.—The plate *a* is perforated with any desired number of ranges of holes to receive spindles or carriers for bobbins or spools containing the threads of which the warp is to be composed. These threads pass through one or more ranges of holes in the guide plate *b*, thence between a pair of rollers *c*, at which point all the threads composing the warp come to their correct position relatively to each other and occupy nearly a horizontal plane; the warp then passes below the lower roller of the corrugated pair of let-off rollers. Corrugated rollers are provided at the front and rear of the loom, connected together so as to move in exact uniformity, and the warp and woven cloth are passed around and between these rollers in such a manner as to insure the proper gripe on the material and consequent uniformity in the weaving operation.

By means of a lever operated by a cam, as the lay approaches the termination of its backward movement the swinging driver is caused to move suddenly and powerfully, giving the necessary momentum to the shuttle which, carrying the driver before it, as it goes into the other box, causes the swinging driver to be thrown back ready to be acted upon by its lever to send the shuttle back.

Claim.—First, the combination of a plate *a*, carrying the bobbins or spools with the guide plate *b*, and rollers *c*, applied to a loom in the manner and for the purposes specified.

Second, the corrugated let-off and take rollers *d d* and *g g*, connected together by the chain 2, or its equivalent, and causing the warps and cloth to progress regularly through the loom as the weaving is performed, as specified.

Third, the arrangement of the driver's seat *t* and levers *u*, acted upon by the cams 10, in the manner and for the purposes set forth.

No. 32,246.—EMERICK J. GERDON and JACOB DAMM, of Albany, N. Y.—*Improvement in Trusses.*—Patent dated May 7, 1861.—The end of the spring which surrounds the body is prolonged and enlarged so as to form a flat oblong plate having a slot lengthwise down its centre; to this plate is secured the lid of the pad, which is hinged at its upper edge to the front piece of the bowl of the pad. By means of set screws, in connexion with the slotted plate, the pad can be varied in its position upon the diseased parts. The parts of the pad are held apart by a spring whose coils form a double cone, at one of the ends of which is a screw, which, in connexion with a nut, serves to increase or diminish the pressure upon the pad.

Claim.—First, the combination of the arm C with the pad L, adjustable by the screws *b b'*, operating together with the slot *e e*, to regulate the relative positions of the arm and the pad to each other.

Second, the combination of the spring H, formed as described, with the adjusting screw, the whole attached to a truss, substantially in the manner and for the purposes set forth.

No. 32,247.—EARL GUYER, of Wolcott, Vt.—*Improved Vegetable Cutter.*—Patent dated May 7, 1861.—Under the horizontal double-edged knife is arranged a V-shaped bar, which acts as a partition between the two sets of vertical knives for the purpose of preventing the passage of the cut substances from one set to the other of the vertical knives, and thus obviate the liability of clogging. The knives are connected by means of slotted angular extensions to admit of their being adjusted as they wear away, or taken out and sharpened.

Claim.—The dividing bar H, horizontal double-edged knife D, in combination with the two sets of angular, slotted, adjustable knives E E', in the manner and for the purpose described.

No. 32,248.—FREDERICK HEIDRICK, of Philadelphia, Pa.—*Improvement in Lamps.*—Patent dated May 7, 1861.—This invention consists in the employment of two corrugated sheaths arranged as related in the claim, for the purpose of conveying the air to the flame in small currents and supplying it at the point of combustion with the requisite quantity of oxygen.

Claim.—So arranging said sheaths that the outside one will come up even with the top of the wick tube, and the top of the second a little below that of the first, in the manner and for the purpose specified.

No. 32,249.—ELISHA HUGHES, of McCartysville, Cal.—*Improvement in Making Mining Picks, &c.*—Patent dated May 7, 1861.—The handle of the mattock is hollow and made of wood, through which passes a rod provided at its upper end with an eye, into which the mattock is inserted, and at its lower end with a screw. By means of a nut bearing upon a ferule at the end of the handle, the rod with the mattock is securely fastened to the handle, and readily detached when necessary.

Claim.—The construction of mining picks and mattocks with an eyed adjusting and holding rod E, a blade notched as at *a b*, ferule C, and terminal nut *d*; the whole arranged and operating in the manner and for the purpose shown and described.

No. 32,250.—WM. JACKSON and J. CLARKE, of Syracuse, N. Y.—*Improved Churn.*—Patent dated May 7, 1861.—In the upper part of the churn are placed two discs, the inner surfaces of which are provided with concentric rows of teeth. Between these discs and attached to the shaft is a wheel provided with concentric rows of teeth on both sides, arranged to pass between the teeth upon the discs: the object being to create a great amount of agitation in the cream.

Claim.—The employment of the discs A and B, with their concentric rows of teeth, as specified, in combination with the central wheel C; the whole constructed and operating as described for the purpose set forth.

No. 32,251.—JOHN M. MAY, of Janesville, Wis.—*Improvement in Pumps.*—Patent dated May 7, 1861.—The cylinder is made without any induction aperture at the bottom, but has one or more induction apertures in its side that communicate with one or more channels in the piston through which the water descends, passing between the interior diameter of a sliding ring and the neck of the valve seat and up into the cylinder, by which means sand or impurities are prevented from being sucked into the pump. The cylinder and piston are kept together and the length of the stroke regulated by means of set screws passing through the side of the cylinder. By means of the toggle-joint connexion of a base rod with the cylinder the pump may readily be inclined at any desired angle or direction.

Claim.—First, a piston made with one or more grooves or holes in the side thereof, in combination with a sliding ring to open and close alternately induction grooves or holes as the pump is operated, and a cylinder without induction aperture in its bottom, when a piston, a ring and a cylinder are constructed and arranged relatively to each other, substantially as and for the purpose described.

Second, a set screw or pin passing through the side of a cylinder, with its point extending into and fitting easily a longitudinal groove or channel in a piston, when used to connect a cylinder and piston, and regulate the stroke of a pump, substantially as described.

Third, a toggle joint, or its equivalent, in combination with a rod or base M, cylinder A, piston B, and eduction pipe I, when constructed substantially as and for the purpose described.

No. 32,252.—A. L. MOWRY, of Cincinnati, O.—*Improvement in Annealing Car Wheels.*—Patent dated May 7, 1861.—This invention is explained by the claim and engraving.

Claim.—The employment of charcoal or other equivalent combustible substance inlaid between the wheels in a pit, in combination with an aperture *d*, for regulating the supply of air to the same, so as to prolong the combustion of the fuel and retain the heat, for the purpose described.

No. 32,253.—JOHN S. PEASLEE, of Providence, R. I.—*Improvement in Washing Machines.*—Patent dated May 7, 1861.—Within the tub is placed a false bottom or circular disc, the upper face of which is shelving and the lower part perforated. The bottom plate rests upon coiled springs. Above the lower surface of the false bottom project a series of pins provided with coiled springs. The pounder is constructed in two parts, which are kept apart by a coiled spring, and connected at their edges by a rubber band, the upper part being secured to the handle.

Claim.—The combination of the elastic pounder D E, constructed substantially as described, with the secondary spring bottom F F, provided with the elastic pins *e e*, such combination affording two yielding surfaces, between which the clothes to be washed are acted upon, substantially as specified.

No. 32,254.—VAN BUREN RYERSON, of New York, N. Y.—*Improvement in the Method of Distillation.*—Patent dated May 7, 1861.—This invention consists in the application of superheated steam directly to the liquid to be distilled, while such liquid is presented to the steam in a spray or shower, so that the superheated steam acts on the liquid to be distilled while it is in a state of subdivision, the heat at which distillation shall take place being regulated by simply regulating the quantity of steam admitted.

Claim.—The distillation of substances by superheated steam applied to the liquid to be distilled while it is in a spray, substantially as and for the purpose specified.

Also, the mode of fractional distillation described, consisting in the exposure of the liquid to be distilled in the form of spray, successively to successive portions of superheated steam of gradually increasing temperatures

No. 32,255.—GOTTLEIB SCHREYER, of Columbus, O.—*Improved Mode of Making the Skeins of Axle Arms for Carriages.*—Patent dated May 7, 1861.—The skein is formed of a thin sheet of steel or iron cut in a suitable shape, and gradually drawn out or tapered down by a rolling or forging process, so as to make the edges of a gradually decreasing thickness, while the central end portions remain of a uniform thickness. When upon the axle the thickest part is placed below or in contact with the greatest wearing point.

Claim.—As a new article of manufacture an axle skein, with its under wearing surface *a a a*, and its smallest end *c d d*, made of an uniform thickness, as shown in Figs. 5, 6, and 7, and its upper surface *f f* of a gradually decreasing thickness, as represented in Fig. 8, by forging or rolling a plate of metal A, in the manner and for the purpose described.

No. 32,256.—SAMUEL J. SEELY, of Brooklyn, N. Y.—*Improved Mode of Constructing Iron Buildings.*—Patent dated May 7, 1861.—This invention consists in arranging and securing two or more corrugated plates of metal with the corrugations of one plate at right or other desired angles, to the corrugations of the adjoining plate or plates, so as to adapt them to the forming of walls, partitions, or floors and roofs of houses.

Claim.—Constructing dwelling and other houses of corrugated metal plates, as set forth.

No. 32,257.—J. G. TREADWELL and WILLIAM HAILES, of Albany, N. Y.—*Improvement in Stoves.*—Patent dated May 7, 1861.—The lower end of the supply chamber is provided with an annular contracting ring for the purpose of supporting the body of the coal above the combustion chamber; between this ring and an outer metallic ring *d* is an inverted frustum, made of some non-conducting material, such as brick or soapstone. Two flues descend from between the supply cylinder and fire chamber, and convey the products of combustion into the hollow bottom of the stove, from whence they are carried up the flue. The top of the stove and of the supply chamber are each provided with covers. To the lower cover is secured a rod, which passes through the upper cover and through a cap piece which rests on the upper cover, and which serves to hold the lower cover open in any position.

Claim.—First, the combination of the contracting circular ring or diaphragm *c*, the inverted frustum H, and the metallic ring *d*, when the same are used as and for the purpose set forth.

Second, in combination with the subject of the first claim, we claim a continuous or circular combustion chamber, between the fire pot and supply cylinder, arranged with two or more descending flues, as and for the purpose specified.

Third, the employment of the covers *a e*, the cap piece *m*, and the rod *n*, constructed, arranged, and used as and for the purpose specified.

No. 32,258.—SAMUEL WAGNER, of York, Pa.—*Improved Artificial Honey Comb.*—Patent dated May 7, 1861.—The substitute is designed to be artificially and suitably formed upon both sides or faces, and of any suitable material which is susceptible of receiving the desired and necessary configuration.

Claim.—As a new article of manufacture an artificial substitute for the central division of comb built by bees, which presents to them, on both sides thereof, guides for the construction or continuation of the sides of the comb cells, whether the same is constructed with or without the whole or any portion of the sides of the cells.

No. 32,259.—F. R. WALKER, of Waterford, Pa.—*Improvement in Beehives.*—Patent dated May 7, 1861.—The object of this invention is to pivot the comb-frames in the hives in such a manner that the pivots will not be accessible to the bees, and the latter be thereby prevented from covering the pivots with wax, which prevents the swinging out of the comb-frames when it is desired to examine or remove them. Wires or comb-guides are attached to the under sides of the top pieces of the comb-frames, for the purpose of aiding the bees in guiding the comb during its construction, so that they will be built in the same planes with the frames.

Claim.—First, the arrangement of the pins *h i* and *k*, in combination with the supporting frame *j k k* and comb-frames C, the whole being constructed and employed in the manner shown and explained, to permit the comb-frames to swing or secure them in position without exposing the pins.

Second, the wires or comb-guides D attached to the under sides of the top pieces *l* of the comb-frames, as and for the purpose specified.

No. 32,260.—WALTER E. WALTERS, of East Bend, Ky.—*Improvement in Pumps.*—Patent dated May 7, 1861.—The pump cylinder is closed, with the exception of the neck, through which the tubular piston-rod passes. The piston consists of an external ring, having a number of grooves on its exterior, which, being filled with water, prevent the passage of water past the piston without the necessity of packing. At the upper end of the piston is an interior flange, and at its lower end a perforated disc. Within the ring is a piece formed of two discs, separated by a space and united by the walls of vertical passages, the whole being cast in one piece. These passages lead from the upper side of the piston to a chamber, the bottom of which is provided with holes opening into the lower side of the piston. Within

this chamber is a flat ring-valve, which alternately closes the vertical passages and the openings in the bottom of the cap.

Claim.—First, a double-acting pump, its cylinder having no other opening to its interior than that through which the tubular piston-rod works, and having no valves other than those contained within the piston itself.

Second, the induction pipe, enclosing the discharge pipe, both being attached to the piston, or a part thereof, and together serving the purpose of the piston-rod, substantially as described.

Third, the double-acting ring-valve *n*, for alternately closing the passages *k* and the apertures in the cap *m*, in combination with the induction pipe, substantially as described.

Fourth, forming the induction valves by the pieces *h* and *m* closing respectively against the internal flange of the piece *f* and the disc *g*, substantially as described.

Fifth, the several parts composing the piston and its valves, viz: the external ring *f*, the perforated disc *g*, the piece *h*, with its spaces and passages, and its connexion with the suction and discharge pipes and the flat double-acting valve-ring *n*, in combination, for the purposes and substantially as described.

No. 32,261.—JOHN H. WEAVER, of Baltimore, Md.—*Improvement in Burial Cases.*—Patent dated May 7, 1861.—Hinged to the body of the burial case is an inner cover made of glass, to the frame of which is hinged the outer solid cover.

Claim.—The intermediate hinged and lock-furnished glass cover *b*, when it is protected by the exterior hinged and lock-furnished solid cover *c*, substantially in the manner set forth.

No. 32,262.—D. M. EDWARDS, of New York, N. Y., and JOSEPH HORNER, of New Brunswick, N. J.—*Improvement in Windlasses.*—Patent dated May 7, 1861.—Upon the shaft are placed two pairs of ratchet wheels, arranged to turn together, one wheel of each pair being smaller than the other. Upon the same shaft are also placed loosely two drums, to the inner ends of which are attached reversible pawls, which engage with the smaller ratchet wheels. Adjoining each ratchet is fitted loosely a lever, the parts being so arranged that each drum may be engaged in hoisting a separate article, or both engaged in hoisting a single article.

Claim.—The arrangement of the combined differential ratchet wheels D D', pawl *a*, and pawled lever G, with the ratchet drum E, pawl *b*, and shaft B, in the manner and for the purpose shown and described.

No. 32,263.—EZRA G. HALL, of New York, N. Y., assignor to Himself and WILLIAM F. DRAKE, of same place.—*Improved Nail Machine.*—Patent dated May 7, 1861.—This invention consists in the employment of a laterally moving bed-knife or knives, in combination with a series of two or more revolving knives, so that each revolving knife cuts against a different surface from the last, and avoids any necessity for either turning the plates or vibrating any heavy portion of the machine.

Claim.—The employment of the transversely sliding bed-knife or knives G H, in combination with the revolving cutter 1 2 or 1 2 3 4, substantially as and for the purpose set forth.

No. 32,264.—JAMES G. HOLT, of Chicago, Ill., assignor to OSCAR G. LANGI and CHARLES B. BROWN, of same place.—*Improvement in Casting Thimble Boxes.*—Patent dated May 7 1861.—The nature of this invention is explained by the claim.

Claim.—A new article of manufacture produced by a new method, to wit: a seamless thimble-box for the axles of wagons and other vehicles, with two internal projecting end bearings, produced by using, in combination with the ordinary pattern flask and sand core, an inner end-bearing pattern made in two or more pieces, substantially as and for the purposes set forth.

No. 32,265.—ANDREW MORSE, of Portland, Me., assignor to Himself and IRA WINN, of same place.—*Improvement in Extension Platforms.*—Patent dated May 7, 1861.—Arranged to radiate from a centre are four slide ways, from which centre projects a pedestal having three grooved pulleys in its upper end. Upon the slide ways are four blocks, which are made to move towards and from the central pedestal, and jointed to the blocks are two extension levers, with which is made a framework surmounted by a platform. By means of a rope and windlass the sliding blocks are moved, and the platform may be raised and lowered at will.

Claim.—The arrangement of the pulley standard B, radiating sliding blocks C, and rails A, with the joint levers D D, pulley blocks *c*, hub K, and cord E, and windlass H J, all in the manner and for the purposes shown and described.

No. 32,266.—JAMES PINE, of Troy, N. Y., assignor to Himself and J. J. VIELE, of same place.—*Improvement in Rakes for Harvesters.*—Patent dated May 7, 1861.—This invention consists in an arrangement of endless toothed bands, whereby the grain, as it is cut, is conveyed from the front part of the platform and deposited in a receiver, from whence it may be discharged from time to time in suitable gavels, with the straw evenly disposed, so as to facilitate the binding operation.

Claim.—The employment or use of the endless straps, chains, or cords L M *c d f*, when

s I I' and guard board *g* on the platform E, to operate substantially set forth.

ES PINE, of Troy, N. Y., assignor to Himself and J. J. VIELE, of same *nt in Harresters.*—Patent dated May 7, 1861.—To the under side of the cured, by a joint, a pendant perforated bar, the lower end of which is at- the front end of the gear frame; to this bar the double-tree is attached at wer, as may be desired.

nbination of the perforated bar K and link *g*, attached to the tongue C in the manner shown and explained, and employed in connexion with an ree to vary the upward draught applied to the finger bar without changing d bar.

o. 32,268.—Su ppended.

No. 32,269.—W ILLIAM GRAICHEN and CHARLES HOFFMAN, of Clinton, Mass.—*Improve- ent in Looms.*—Patent dated May 7, 1861.—This invention consists of a device applied to looms employing a series of shuttles, for the purpose of arresting the motion of the machinery in the event of either thread breaking or running out.

Claim.—First, the vibratory hooks *s*, operating in connexion with the rock-shaft G and arms *q*, or their equivalents, in manner substantially as and for the purpose set forth.

Second, the combination of the levers H K and M, spring-shipper N, bar L, cams E, and stops F, constructed, arranged, and operating in the manner and for the purposes set forth.

No. 32,270.—J HN ADT, of Waterbury, Conn.—*Improvement in Latch Bolts.*—Patent dated May 14, 186 .—This invention consists in applying to an ordinary slide latch a locking cylinder, spring d, and a cross bar, so arranged that by turning the knob arbor the latch will be thrown ba k, and by turning the cylinder half round it serves as an obstruction to the spring rod, and p events the latch from being thrown back.

Claim.—The l tch B, in connexion with the cylinder C, provided with the hole *e*, rod E, with spring *g*, ap plied, and the cross bar F, when arranged to operate as and for the purpose set forth.

No. 32,271.—C HARLES ASKAM, of Philadelphia, Pa.—*Improvement in Children's Car- riages.*—Patent d ated May 14, 1861.—The front axle is arranged to swivel on a pin passing through a transve rse bar, which the front ends of the ear-shaped springs are secured, the rear ends being s cured to the rear axle. The body of the carriage is secured directly to the springs at their m ost elevated point, the centre of gravity of the body being in the rear of the po-nt where it is s cured to the springs, so that the weight of the child causes the springs to throw the front w heels forward to an extent depending upon its weight.

Claim.—The c r-shaped springs G G, the body H, the rear axle E, and cross bar C, when constructed, arra ged, and combined, as and for the purp se set forth.

No. 32,272.—H ENRY BENTON, of Guilford, Conn.—*Improvement in Children's Flying Tops.*—Patent d ted May 14, 1861.—This invention is explained by the claim and engraving.

Claim.—The e mployment or use, in combination with a spinning top, of spiral tranches B, so applied as t o give the top a rising and falling movement simultaneously with its rota- ting one, substan tially as set forth.

No. 32,273.—I ORIN S. BUNDY and LEVI F. EDGERTON, of Hyde Park, Vt.—*Improve- ment in Corn-She ellers.*—Patent dated May 14, 1861.—The feeder is secured to uprights, the lower parts of w hich rest upon a wheel provided with cam projections or "cogs," by means of which as the w heel revolves an upward motion is imparted to the feeder, a spring serving to press the uprig hts down upon the wheel; the object being to allow one ear of corn to pass over the cylinder at a time.

Claim.—The c onstruction and arrangement of the feeder D, spring *d'*, uprights D' and I with cogs *d*, as a nd for the purpose set forth.

No. 32,274.—I . C. CHASE, of Boston, Mass.—*Improved Mode of Stringing Sleigh Bells.*— Patent dated May 14, 1861.—The object of this invention, as related in the claim, is to secure the bell firmly to the strap so as to render it less liable to become loose and chafe the leather and thus muffle the vibrations of the metal.

Claim.—Constructing a sleigh bell with two shanks *a a*, and a hole between them, and confining it to the strap by means of a single rivet passing through the strap, between the shanks, and head ed down inside of the bell, substantially as described and for the object specified.

No. 32,275.—W M. T. CLEMENT, of Northampton, Mass.—*Improvement in Securing Han- dles to Hoes.*—P tent dated May 14, 1861.—This invention will be understood by reference to the engraving and claim.

Claim.—The [illegible] ing of handles to hoes and other tools by the [illegible] shank B, which is a combination of the tool itself with the tapering [illegible] and tapered handle D, so that the tool is fixed to both C and D, substan[illegible] and so as to possess the advantages set forth.

No. 32,276.—IRA COOPER, of Saybrook, O.—*Improvement in Cultivators.*—Patent dated May 14, 1861.—Upon one side just above the lower mould-board and extending [illegible] of its length is an upper mould board, so secured as to be capable of being rem[illegible] when necessary. Braces extend from the handles to the standard, and thence [illegible] part of the beam.

Claim.—The special arrangement of the adjustable mould-board F, in combinat[illegible] the mould-boards A A, space A′, coulter L. and braces P, O, M, N, when arranged manner and for the purpose set forth.

No. 32,277.—N. T. EDSON, of New Orleans, La.—*Improved Wheelwright's Machine.*—Patent dated May 14, 1861.—Supported upon feet L is a base having four arms, on the end of which rests a rim 4 which holds the spokes to a proper elevation for the [illegible]ish of the wheel. Upon the base is a tube for receiving the pressure of the lower flange. Passing through a head piece 1 are screws, by which the ring 5 is forced down upon the upper flange with an equal pressure on all parts. The head piece, box, and base, are secured together by means of a bolt and screw.

Claim.—The combination of the form or stand L G, 4, bolt B, head piece 1, ring 5, and supporting tube or thimble A, constructed and operated substantially as described.

No. 32,278.—JAMES P. ELLICOTT, of Washington, D. C.—*Improvement in Apparatus for Irrigating Streets.*—Patent dated May 14, 1861.—In the crown of the arch of the street through its entire length is designed to be let a grooved piece of timber, in which is laid a double perforated pipe connected by suitable pipes and cocks with the water mains. Over the perforations in the pipe projects a cap in such a manner that the water striking its under side directs it upon the entire width of the street, and prevents dirt, &c., from falling into the perforations.

Claim.—First, the cap *c*, with its concave sides *f f*, for the purpose of flattening the water issuing from the jets or perforations *b b*, thereby conforming the same to the arch of the street, and at the same time serving as a protection to the pipe E and perforations *b b*, as set forth.

Second, in combination with the above, the perforated pipe B, for the purpose and use expressed.

No. 32,279.—SQUIRE M. FALES, of Baltimore, Md.—*Improvement in Refining and Smelting Furnaces.*—Patent dated May 14, 1861.—This furnace consists of a stack or cone, a central melting chamber, and side arches, with passages through their tops, for the introduction of suitable fluxes. The improvement consists in extending the length of one or more of the arches, and providing an auxiliary stack or chimney so that the heated gases from the fuel are caused to circulate over the mass of melted metal, and the danger of the large mass of metal becoming cool is obviated.

Claim.—Extending one or more of the arches A, of the furnace B D, constructed as set forth in my patent dated February 8, 1859, and having the said extended arch or arches communicate by a flue with an auxiliary stack or chimney, or with a series of auxiliary stacks or chimneys C, substantially as and for the purposes set forth.

No. 32,280.—SQUIRE M. FALES, of Baltimore, Md.—*Improvement in Refining and Puddling Furnaces.*—Patent dated May 14, 1861.—One or more of the arches of the furnace is extended, and the extended portion is converted into a puddling chamber by introducing a division plate, near the centre of which is a draught passage through which is drawn the escape heat from the fuel that is used for smelting and refining. Between the cone or stack of the smelting furnace and the puddling chamber is formed a communication by means of a curved flue for returning to the puddling chamber a portion of the impure gases which rise in the cone or stack of the smelting furnace.

Claim.—First, the combination with my improved patented furnace, bearing date February 8, 1859, of a puddling chamber D′, a secondary draught chimney or stack F, and a division wall E, with draught passage *b* through it, substantially as and for the purposes set forth.

Second, the combination with the puddling chamber D′, perforated division wall E, draught chimney F, stack or cone D, of the furnace, patented to me and bearing date February 8, 1859. return pipe or passage G, substantially as and for the purposes set forth.

No. 32,281.—J. J. FEARING, of South Boston, Mass.—*Improvement in Button-Hole Cutters.*—Patent dated May 14, 1861.—This invention consists in applying to one of the blades the scissors a cutting blade formed of taper or wedge shape, bent over at its smaller end to form a loop or eye so that it may be readily fitted to the blade.

Claim.—A supplemental cutting blade A, constructed substantially as described, and applied to a pair of scissors, to operate substantially as and for the purpose set forth.

No. 32,282.—JOSEPH FORREST, of New York, N. Y.—*Improvement in Machines for Breaking Sugar.*—Patent dated May 14, 1861.—This invention is explained by the claim and engraving.

Claim.—The combination of two grooved rollers D and E, working together, one of which is grooved lengthwise, the other circumferentially on its periphery, and one or more pairs of rollers armed with teeth, the whole arranged substantially as and for the purpose set forth.

No. 32,283.—JOHN S. GANSON and CHARLES T. COIT, of Buffalo, N. Y.—*Improvement in Fireplaces.*—Patent dated May 14, 1861.—The fire back is formed so as to have at its upper part a recess above the mouth of the chimney. In the rear of the fire back and side plates, and connected therewith, is a jacket made of tin or other polished metal, for the purpose of combining with the fire back to form the air chambers in the rear, at the sides, and over the fire chambers. Across the fire chamber is placed a tube secured to the side plates and opening into the side air chamber for the purpose of insuring the collection and combustion of the smoke and gases in the recess.

Claim.—First, so constructing the fire back B as that it will extend upward and above the mouth of the chimney, and then downward and forward, as shown at *b'*, with semicircular bend *b2* receding again upwardly, as shown at *b3*, for the purposes and substantially as described.

Second, said fire back being constructed substantially as described, in combination and arrangement therewith the jacket N, for the purposes set forth.

Third, the combination of the tube or air chamber L, with the recess D, as and for the purposes set forth.

No. 32,284.—JOHN S. GETCHELL, of Machias, Me.—*Improved Combined Capstan and Windlass.*—Patent dated May 14, 1861.—Upon the top of the barrel, around which the cable is wound, is secured a circular box which contains a large spur wheel and a pinion, the shafts of each of which passes through the sides of the box, and carry barrels upon their ends. The ends of the shafts are cut square for receiving the winch shaft and flanged drum, the outer ends of both of which are supported by a standard, and so arranged as to be readily detached from the shafts of the capstan when the latter is to be used alone, the object being to use either the capstan or windlass as the nature of the work to be done may require.

Claim.—The combination with the vertical capstan herein described of the box C, gear wheels F *f*, shafts G G', shaft I, drum J, and movable standard K, all arranged and operating substantially as and for the purposes set forth.

No. 32,285.—D. F. GOODHUE and E. H. CAREY, of Cincinnati, O.—*Improvement in Wheel Carriages.*—Patent dated May 14, 1861.—The body of the car consists of an inner and an outer shell, supported on a pair of doubly flanged wheels, which are fastened to a common axle revolving in boxes, springs being interposed between the boxes and carriage body. The wheels rest upon circular rings which serve as portable tracks. Within the concavity of the rings are yielding flanged rollers which, in connexion with the flanged wheels, serve to preserve the relative positions of the rings and the car body.

Claim.—The combination herein described of the spokeless rings G, grooved supporting wheels B, axle C, grooved guide rollers H H' H'', and springs F, the whole being constructed, arranged, and operating in the manner and for the purposes set forth.

No. 32,286.—WILLIAM C. GRIMES, of Philadelphia, Pa.—*Improvement in City Railroads.*—Patent dated May 14, 1861.—This invention consists in making the outer rail double or with two parallel rails or tracks in juxtaposition for a short distance at the point of divergence of one track from the other, with the horizontal plane of the one slightly inclined from and below the other; the car wheels to be of different breadth of face or tread for the different tracks, by which means the cars may be readily transferred from one track to another without the aid of a switch.

Claim.—The double track C and D, constructed substantially as described and for the purpose set forth.

No. 32,287.—F. R. GRUMEL, of Geneva, Switzerland.—*Improvement in Photographic Albums.*—Patent dated May 14, 1861.—This invention is explained by the claim.

Claim.—First, the construction of leaves for albums for collection of photographic or lithographic proofs, engravings, or other drawings, with an opening or frame on each side, so that two proofs, engravings, or drawings may be inserted back to back, thereby showing one on either side, substantially as shown and described.

Second, the formation of leaves for photographic or other album by combining with a front and back framing leaf a centre leaf, recessed, and of such thickness as that when containing one or two photographic cards they shall be flush with the general surface of the leaf, as specified.

Third, the construction of leaves for photographic or other album, by pasting or otherwise permanently fixing the front and back framing leaf on to the centre leaf on three sides thereof, leaving one side open and free for the insertion of photographic cards or drawings, as described.

Fourth, in combination with leaves constructed and arranged as described, the filling piece for closing the gap formed for the ready insertion of the photographic cards between the framing leaves, substantially as specified.

No. 32,288.—JAMES M. HICKS, of Boston, Mass.—*Improvement in Erasers.*—Patent dated May 14, 1861.—This invention is explained by the claim.

Claim.—First, providing the eraser blade with an independent back made of bone, rubber, ivory, wood, or other suitable animal or vegetable substance or substances, separate or combined, essentially as and for the purpose or purposes set forth.

Second, forming an independent supporting and burnishing back to the blade, by extending the handle which carries the latter, substantially as described.

Third, uniting the blade with the handle, by inserting it in a cross-cut or slot in the end of the handle, in combination with riveting or holding it by pins to the independent back formed by extension of the handle, essentially as specified.

Fourth, the combination with an erasing blade of metal, or its equivalent, and handle thereto, of an India-rubber eraser or burnisher, as set forth.

No. 32,289.—J. J. HIRSCHBÜHL, of Louisville, Ky.—*Improvement in Locks.*—Patent dated May 14, 1861.—This invention consists in the employment of a latch-bolt of a hook form, arranged with tumblers and a catch, and used in connexion with a nosing of peculiar construction and a supplemental slide, bolt, or guard, for the purpose of rendering the lock burglar proof.

Claim.—First, the employment or use of the latch-bolt E, when combined with tumblers G G′, one or more, a catch H, and a nosing D, provided with a slot *a*, arranged as and for the purpose set forth.

Second, the slide-bolt K, when used in connexion with the latch-bolt E, tumblers M N, dog L, and the rod O, on the latch-bolt E, as and for the purpose specified.

No. 32,290.—CORNELIUS C. HOFF, of Poughkeepsie, N. Y.—*Improved Mastic Composition for Roofing.*—Patent dated May 14, 1861.—The gas tar, before being mixed with the other ingredients stated, is treated with chloride of lime, and at the same time heated, so that the acids contained in the volatile matter of the tar, and which tend to destroy the fibres of the canvas, are expelled, and the tar becomes deodorized.

Claim.—The described composition of gas tar, treated and prepared in the manner specified, black oxide of manganese, boiled plaster of Paris, alum, and calcined charcoal, mixed together in the manner and about in the proportion stated, and applied to the canvas, substantially as and for the purpose set forth.

No. 32,291.—HENRY S. HOLMES, of Lynn, Mass.—*Improvement in Congress Gaiters.*—Patent dated May 14, 1861.—This invention is explained by the claim.

Claim.—Securing the upper edge of the cloth of the front and heel parts of a Congress gaiter top to their respective linings by an inside seam *b*, Figs. 8 and 11, when such seams are used in connexion with gores of elastic cloth attached to the gaiter top and lining by a seam common to all, the whole being effected in the manner described and for the purposes set forth.

No. 32,292.—NELSON HOMES, of Laona, N. Y.—*Improved Broom Clasp.*—Patent dated May 14, 1861.—This invention consists in the application of a clasp that can be easily adjusted to brooms of different sizes, for the purpose of holding the material in place while new or until partly worn away.

Claim.—The combination of the bars or slips A A A A and bands L L, in their application to brooms and brushes, as described, the whole being arranged and operating substantially as and for the purpose set forth.

No. 32,293.—B. B. HOTCHKISS, of Sharon, Conn.—*Improved Projectile for Rifle Ordnance.*—Patent dated May 14, 1861.—The rear end of the projectile being the smaller part, is cylindrical, and is united to the other part by a short incline or conical portion, over which extends a sharp projecting lip a short distance. Upon the cylindrical portion is fitted a soft metal ring, the space between which and the projecting lip is filled with tallow or wicking soaked in some lubricating material. At the rear end of the cap, which is fitted to slide over the cylindrical portion, is a slight projecting ring, made to fit the bore of the gun, so that the weight of the projectile is received upon the ring G and soft metal ring D, and serves to hold the axis of the projectile in line with the axis of the gun. The metal ring is covered with cloth or other suitable material wound spirally thereon, so that as the ring expands the several coils spread and still cover the whole exterior.

Claim.—First, the arrangement of the inclined surfaces or cones B and *f*, and the cylindrical portion *a*, in connexion with the ring of soft metal D, placed between B and *f*, substantially as and for the purpose specified.

Second, the employment of a quantity of lubricating material E within proper recesses in the body of the projectile and in front of the belt D, so arranged that a portion of the whole

shall be forced out to lubricate the bore by the action of the metal ring D, or its equivalent, substantially as specified.

Third, the employment of the projecting ring G, made to fit the bore of the gun, in combination with the cap F and belt B, substantially as and for the purpose herein set forth.

Fourth, covering the belt D with cloth or other suitable material H, wound spirally thereon, substantially as and for the purpose above described.

Fifth, cutting the patch H after the belt D has been sufficiently expanded by means of the lips C f', or their equivalents, substantially as and for the purpose specified.

No. 32,294.—H. J. HOWE, of Onarga, Ill.—*Improvement in Corn-Planters.*—Patent dated May 14, 1861.—This invention consists in a means for operating the seed-distributing device, whereby the latter may be actuated by the driver when planting in check rows is required, or actuated automatically from one of the ground wheels when it is designed to plant in rows for cultivation in one direction only. By means of a bent lever attached to the main frame and draught-pole, and operating with a semicircular rack and pawls or stops, the front part of the machine may be elevated, so that the furrow shares or runners may be free from the earth and the machine readily turned.

Claim.—First, the arrangement of the tappet K on axle L, the lever J, segment rack H, with sliding weight h and pinion d on shaft G, substantially as and for the purpose set forth.

Second, the arrangement of the bent lever B', attached to the frame A' and draught-pole C', the semicircular racks A' and pawl stop a', as and for the purpose set forth.

No. 32,295.—SHUBAEL W. HOWLAND, of Adams, Mass.—*Improvement in Knitting Machines.*—Patent dated May 14, 1861.—The pressing sinker-wheel consists of a series of oblique wings notched or grooved on the face, to carry the thread as usual; but instead of making all of these wings of about the same depth, to sink the thread under every barb of the needles, the wings are made of different depths, one or more alternately, on that side of the wheel which comes opposite the barbs of the needles, by means of a plate about one-tenth of an inch thick, notched to these different depths, set on a plate with the usual depth of wings, so that the pressing sinker-plate may be changed for another to press one, two, or more needle barbs alternately, as it may be desired to shorten or lengthen the stitch.

Claim.—The changeable pressing sinker-plate on the wheel, so as to be able to ship one or more needles, and press the other, simply by changing this plate without changing the whole wheel.

No. 32,296.—JOHN, JEFFERSON, and JAMES MCCAUSLAND, of Rondout, N. Y.—*Improved Steering Apparatus.*—Patent dated May 14, 1861.—This invention, which is mostly applicable to canal boats, consists in securing the tiller to the rudder head by means of a pivot, in such a manner that it can easily be reversed and held in position by a pin or stud secured in the edge of the boat, for the purpose of bringing the rudder to the side of the boat and keeping it out of the way as the boat enters a canal lock.

Claim.—The arrangement of the pin or stud b, in combination with the hinged reversible tiller A, as and for the purpose shown and described.

No. 32,297.—WILLIAM JONES, of Brooklyn, N. Y., and PATRICK HAUGHIAN, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated May 14, 1861.—The needle used in this machine is chamfered off near the point on the front side, or side opposite to shuttle race, so as to carry the point thereof entirely to the back side of the needle. The loop is caused to be carried back of the needle, so as to allow the shuttle to pass between the needle and the thread or through the loop by means of mechanism, for a description of the construction and operation of which reference must be had to the specification and drawings.

Claim.—First, the side-pointed needle, as described.

Second, the combination of the needle with the fork and shuttle, as described.

Third, the combination of the guide with the fork and needle, as described.

Fourth, the combination of the feed-chain with the fork and needle, as described.

Fifth, retaining the needle thread, in making the stitch, on the side of the needle opposite to the shuttle, substantially as set forth.

No. 32,298.—HENRY KNIGHT, of Jersey City, N. J.—*Improvement in the Manufacture of Hydraulic Cement Pipes.*—Patent dated May 14, 1861.—This invention is explained by the claim and engraving.

Claim.—First, manufacturing cement pipes with metallic pipe intermediate between its inner and outer surfaces, by arranging the metallic pipe over the core B and within the mould F, so that it divides about equally the space between the core and the mould, and then placing an annular centring device I between the pipe and the mould, and introducing the cement first between the metallic pipe and the core, and then between the pipe and the mould, all substantially in the manner and for the purpose described.

Second, finishing the sections of the combination pipes at one of their ends with a metallic coupling extension J, by means and in the manner substantially as described.

No. 32,299.—THOMAS LANGDON and H. C. KELLOGG, of Quasqueton, Iowa.—*Improved Broom.*—Patent dated May 14, 1861.—To the lower part of the handle is fastened a metal cap opening downwards, and to the end of the handle is secured a screw, upon which is a wooden wedge provided with a nut and formed to correspond with the interior of the cap. The broom corn is bound to the screw over the wedge, so that by turning the handle the wedge is moved up on the screw and the corn is firmly secured within the cap. Below the cap is a clasp encircling the corn and secured in place by a rod or pin attached to the clasp and passing through an eye in the end of the screw.

Claim.—The employment or use of the wedge E and screw C, attached to handle A, in combination with the cap D, the above parts being applied to the broom corn I, and all arranged substantially as and for the purpose set forth.

Also, in combination with the screw C, wedge E, and cap D, a cross rod H, attached to the clasp G, and passing through the eye *a* of the screw, to prevent the casual turning of the latter, as specified.

No. 32,300.—DENIS LENAIN, of New York, N. Y.—*Improvement in Boots and Shoes.*—Patent dated May 14, 1861.—Within the shell, which is made of metal and forms the outer covering of the heel, is inserted a piece of wood or cork, secured to the top plate by a screw-bolt. Into the lower part of the shell is fitted a piece of leather, secured by nails to the wood or cork filling. When the leather becomes worn out it may be readily removed and a new piece inserted.

Claim.—The construction of boot heels with a bolt E passing down through the sole into the shell C, and through the filling block D, where the screw receives a nut *d*, all of the above parts being arranged as shown, and employed in connexion with the bottom leather cover F, as set forth, for the purposes described.

No. 32,301.—MARTIN H. MANSFIELD, of Ashland, Ohio.—*Improvement in Hangers for Shafting.*—Patent dated May 14, 1861.—The journal boxes are supported within a ring by means of set screws which pass through the ring, and by which the boxes are adjusted, the horizontal screws being supported in standards secured to the frame of the machine.

Claim.—The making of journal boxes for shafting for threshing machines adjustable, horizontally, vertically, and obliquely, by means of the standards A, ring E, and screws C C and F F, when arranged in relation to the journal box G, as specified, thus giving it free motion in every direction, as and for the purpose set forth.

No. 32,302.—JAMES S. MARSH, of Lewisburg, Pa.—*Improvement in Seed Drills.*—Patent dated May 14, 1861.—This invention consists in an arrangement of devices for throwing the seeding roller out of gear, and simultaneously therewith elevating the drill teeth. Just above each distributing portion of the roller, over each of the discharge passages of the hopper, is arranged a vertically sliding metallic gate N. The gates are kept in place by means of a metallic guide casing and a lever plate, which is coupled to the gate by means of a pin projecting from the gate and passing through an eccentric slot in the lever plate. By turning the lever plates the discharge passage may be decreased or increased in size.

Claim.—First, the combination of the distributing roller F, hinged journal G of the distributing roller, sliding bearing plate J, having curved slots *e e* in it, supporting casting K, coupling pins *d d*, pinion H, spur wheel I, lever bar E, with crank-shaped journal *g* on its end, and drill teeth D, substantially in the manner and for the purpose set forth.

Second, the combination of the crank-shaped journal *g*, slotted bearing slide or plate J, and hinged journal G, in the manner and for the purpose described.

Third, the combination of the revolving cellular distributing roller E, hopper E′, sliding seed gate N, slotted lever plate P, and guide casting O, in the manner and for the purpose described.

No. 32,303.—HENRY MAULE, of Philadelphia, Pa.—*Improved Time Tell-Tale.*—Patent dated May 14, 1861.—In the door of the clock, and near its edges, are a series of slits corresponding with the hour marks of an ordinary dial. To the spindle of the hour hand of the clock, and with which it revolves, is fitted a plate having a single slit so situated that as the plate revolves the slit will move in the range of slits in the door of the clock. Behind the revolving plate is a permanent plate of slate, having upon it permanent marks corresponding with the slits in the door, and so arranged that if the watchman, whose duty it is to make the mark at the proper stated intervals, fails to do so, the omission may readily be detected.

Claim.—The door B, with slits *e* and *f* arranged at suitable intervals, the permanent plate F of slate, or other suitable material, and the intervening detachable plate E, with its single slit *i*, the whole being arranged, applied to a clock and operating as set forth, so that it is impossible to mark the plate F through any slit of the door other than that which coincides with the slit *i* of the plate E, as specified.

No. 32,304.—WILLIAM MCCLURE, of Peebles Township, Pa.—*Improvement in Sadirons.*—Patent dated May 14, 1861.—The object of this invention is to preserve a perfectly smooth and highly polished surface on the bottom of the iron, which shall be separable at pleasure, and can be more easily kept in order than the irons themselves.

Claim.—The use of a shoe constructed substantially as described, so as to fit on the bottom of sadirons, and so arranged with spring lugs or other mode of attachment as to be easily attached to the iron or removed therefrom at pleasure.

No. 32,305.—WILLIAM HARTLEY MILLER, of Philadelphia, Pa.—*Improved Low Water Alarm for Steam Boilers.*—Patent dated May 14, 1861.—Within the glass tube is a metal tube connecting with the combined valve and float and the whistle above. The valve float fits into the lower end of the hollow rod or tube, and is supported by the water until it falls below this point, when it drops upon a rest a short distance below the float, admitting steam through the tube and whistle.

Claim.—The metal tube L and the float valve M working within the glass tube G, in the manner and for the purpose specified above and for no other purpose.

No. 32,306.—DANIEL MILLER, of Marietta, Ohio.—*Improved Cork-Fastener for Bottles.*—Patent dated May 14, 1861.—Around the neck of the bottle is placed a triangular-shaped collar, on each side of which are pivoted the lower ends of arms, so as to pass on each side of the neck of the bottle and over the rounded edges of the cork.

Claim.—As an improved article of manufacture, a bottle cork-fastener that has the arms *a* of its cap *b* pivoted in the rear of the centre of the neck collar B, and otherwise made as shown and described.

No. 32,307.—SAMUEL MOWRY, of Womelsdorf, Pa.—*Improvement in Horse Rakes.*—Patent dated May 14, 1861.—The rake shaft to which the teeth are attached is operated by means of connecting rods and levers so arranged as to be easily operated—one by the hand which raises the rake to discharge the hay, and the other by the foot to draw the rake again to its work. A catch serves to hold in place the bent arm of the hand lever when the rake is raised.

Claim.—The combination of the bent arm *s* and catch *t*, with the levers H and *e*, and their connecting mechanism for operating the rake, when the several parts are arranged for joint operation in the manner described.

No. 32,308.—WILLIAM NUGENT, of Chicopee, Mass.—*Improvement in Picker Motion.*—Patent dated May 14, 1861.—The box which receives the bottom of the rocker is attached to the lower part of the lay on the outer side thereof, and just above the line of its axis of oscillation, the interior of the box being of sufficient width and length to permit the rocker to work freely within it. The face of the rocker, which rests upon the bed of the box, is made straight and at right angles to the working face of the picking stick, and is provided with a downwardly projecting piece which is received within a dovetailed recess in the front of the box, by means of which the rocker is prevented from jumping out of the box when the loom is in rapid motion.

Claim.—The rocker E constructed with a straight bottom and downward projecting piece *e*, and the box D constructed as described, to receive the bottom of the rocker, and contain the bed for the same to work upon, and with a dovetail recess *f* in front for the reception of projection *e*, the whole combined substantially as set forth.

No. 32,309.—S. E. OVIATT, of Richfield, Ohio.—*Improvement in Threshing Machines.*—Patent dated May 14, 1861.—In front of the air chamber or flue is placed a screen, consisting of rods secured at their ends to belts which pass over pulleys. In the rear of this revolving screen, and filling the throat of the opening, is a wire cloth diaphragm, for the purpose of preventing the chaff and straw from passing into the flues and pipes and obstructing the draught. Extending over the stacker and rear end of the machine is a covering or hood of canvas for the purpose of preventing the escape of dust into the barn.

Claim.—The wire cloth diaphragm E″, in combination with the revolving screen E′ and thresher, for the purpose set forth.

Also, the canvas covering or hood M, in combination with the stacker, for the purpose specified.

No. 32,310.—Suspended

No. 32,311.—THOMAS PATTERSON, of Rush, Ill.—*Improvement in Ploughs.*—Patent dated May 14, 1861.—This invention consists in connecting and bracing the plough body to a beam which is jointed to the front part of the axle-tree of the carriage, and which projects out in front of the axle-tree. The beam is connected near its front end by jointed straps to a lever, so arranged as to be readily operated by the ploughman, and also at its front end by a jointed arm and chains to a sliding cross-tree, to which the team is attached.

Claim.—The plough body G, secured to jointed beam E, as described, in combination with straps *d d*, lever F, jointed bar *h*, chains K K, and jointed sliding cross-tree D′, all arranged and combined with the wheels B B′, axle A, and draught-pole D, as and for the purposes set forth.

No. 32,312.—THOMAS POWERS, of Philadelphia, Pa.—*Improvement in Gas Regulators.*—Patent dated May 14, 1861.—Attached to the pipe below the burner is a cup-shaped case, the inlet of which is covered with a ball acting as a valve. Resting upon the inner side of the casing is a hemispherically-shaped disc, perforated to allow the passage of the gas, and provided with a tube at the top, in which tube is a hollow sliding spindle, having at its lower end a circular disc, which serves as a guide to the ball. The spindle is provided with a screw at the top, so that the distance through which the ball can rise may be regulated, and the pressure adjusted to the number of burners used.

Claim.—The combination and arrangement of the double-acting ball-valve A with the hollow sliding tube L and the perforated hemispherical disc K, operating substantially as set forth.

No. 32,313.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Steam-Boiler Furnaces.*—Patent dated May 14, 1861.—Between the fire chamber and the gas-mixing chamber are arranged two walls at a short distance apart, and extending across the inner portion of the boiler in the rear of the fire grate, with a space or chamber between them. Through the front wall is a passage *d*, which forms a communication between the fire chamber and the interposed chamber. Through the lower part of the back wall are also passages *e e*, communicating with the gas-mixing chamber. The space between the walls is partly closed at the top by a cover, in which is a passage *f* fitted with sliding valves, through which passage are drawn the lighter gases into the intermediate chamber.

Claim.—The two walls C D and their interposed chamber E and passages *d e e*, constructed and arranged between the fire chamber A and gas-mixing chamber B, substantially as and for the purpose specified.

Also, in combination with the said walls, interposed chamber, and passages, the described arrangement of the passage or passages *f*, for the purpose specified.

No. 32,314.—THOMAS SANFORD, of Claremont, N. H.—*Improved Steam Cock.*—Patent dated May 14, 1861.—The gate B of the cock is hollow, and made of cylindrical form, and screws upon a hollow seat stand C, which is secured to an open partition extending across the cock chamber. This seat stand is provided with a passage extending laterally through its screw. The gate is affixed to the lower end of a cylindrical rod or stem which passes through a neck, and is provided with a hand-wheel at its upper end. By moving the gate the passage of the steam or fluid through the partition of the cock chamber may be regulated as circumstances require.

Claim.—My improved steam cock, as constructed with its parts B C, hollow, and to screw together, or one on or in the other, and with one of them provided with a lateral opening *d*, substantially as specified, the whole being applied to stem D and partition *c*, as and so as to operate as described.

No. 32,315.—J. P. SHERWOOD, of Fort Edward, N. Y.—*Improvement in Sewing Machines.*—Patent dated May 14, 1861.—This invention consists in the employment, in combination with a needle and shuttle, so operated that the shuttle passes twice in the same direction through every loop of the needle thread, of mechanism for drawing back the needle thread through the cloth, operating relatively to the needle and shuttle. To the upright stem of the presser is pivoted the foot piece, in such a manner as to be capable of oscillating in a direction transverse to the feed movement. The foot piece is fitted with two rollers, the peripheries of which form the pressing surface, the rollers being arranged in such a manner that the needle will pass between them, and having their peripheries convex in a longitudinal direction, adapt themselves to irregularities of the surface or thickness of the cloth.

Claim.—First, in combination with a needle and shuttle, applied, combined, and operating together as specified, the employment of the drawback mechanism, operating to draw back the whole of the slack of the needle thread loop through the cloth between the first and second passages of the shuttle through it, substantially as described.

Second, though I do not claim broadly the employment of rollers in the presser foot, I claim the combination of the laterally oscillating foot T and the rollers *g g*, having a convex longitudinal profile, substantially as and for the purpose specified.

No. 32,316.—LORENZO SIBERT, of Mount Solon, Va.—*Improvement in Magazine Fire-Arms.*—Patent dated May 14, 1861.—This invention consists in arranging a magazine composed of separate tubes to carry complete ball cartridges concentrically around the barrel of the gun in such a manner that the magazine may readily be revolved upon the barrel, and the tubes be caused to occupy successively such a relation to the loading mechanism that the cartridges may regularly and readily be fed one at a time into the discharging mechanism by their own gravity alone.

Claim.—First, the combination of the series of magazine tubes B with the barrel A and breech D, substantially in the manner and for the purpose described.

Second, the conveyer G, when arranged and operating substantially as set forth.

Third, an open breech, so constructed as to permit the unobstructed passage of a cartridge directly through the same from top to bottom, substantially in the manner described.

Fourth, the combination of the fluted rollers F F′, or their equivalent, for the purpose, of

forming an open chamber to receive and hold the loaded cartridge, and discharge it when exploded.

Fifth, the combination of the magazine tube B, conveyer G, hammer J, and fluted rollers F F′, or their equivalent, substantially as and for the purpose set forth.

Sixth, expelling the empty cartridge case from the discharge chamber by means of the succeeding cartridge, substantially in the manner described.

Seventh, discharging the empty cartridge cases automatically into a chamber in the stock of the gun, where they may be preserved for future use.

Eighth, holding the loaded cartridge at the moment of explosion in an open chamber in such manner that the cartridge itself shall form a prolongation or extension of the bore of the gun.

Ninth, so arranging the fluted rollers F F′ that the semi-diameter of the loaded cartridge lying thereon shall project into the plane of the tube B, to prevent the escape of more than one cartridge therefrom at a time.

Tenth, the lock, composed of the hammer J, mainspring *i*, trigger S, trigger-spring *s*, and cocking-lever I, arranged substantially in the manner described, in combination with the conveyer G, for the purpose set forth.

Eleventh, the combination of the conducting tube H and fluted rollers F F′, or their equivalent, substantially in the manner and for the purpose described.

Twelfth, the guides *d*, in combination with the breech D and fluted rollers F F′, or their equivalent, substantially in the manner described, for the purpose set forth.

No. 32,317.—A. B. SMITH, of Clinton, Pa.—*Improvement in Raking Attachments to Harvesters.*—Patent dated May 14, 1861.—This invention consists in the attachment of a raking apparatus to a reaping machine in such a manner that by means of a cam plate, operating in connexion with two detents secured in the side of the frame and a guide plate, the rake is turned up and down at the termination of its backward and forward movement. The sheaf guard consists of a rock-shaft, provided with curved teeth and a torsional spring, and serves to receive the grain or gavel brought forward each time by the rake, and hold it there suspended over the edge of the platform until the moment arrives for casting the same off upon the ground.

Claim.—The cam P, constructed, arranged, and operating in combination with the spring detents Q R and guide plate *b*, substantially as specified, for the purpose of turning the rake up and down at the termination of its backward and forward movements.

Also, the combination of the arm S and stop *s*, for giving the additional forward and downward motion to the rake at the termination of its forward movement with the mechanism for operating the grain or sheaf guard, whereby the gavel is discharged in a compact form, substantially as described.

Also, the sheaf guard, arranged and operating in combination with the rake, substantially in the manner and for the purpose specified.

Also, the compressing arms *i i*, arranged and acting in combination with the rake and sheaf guard, substantially as and for the purpose specified.

Also, the combination and arrangement of the cam L, vibrating lever K, and arm M, constructed substantially as described, for communicating the required positive motion from the driving shaft to the sheaf guard.

No. 32,318.—HENRY K. STONER, of Lancaster, Pa.—*Improvement in Seeding Machines.*—Patent dated May 14, 1861.—The diagonal position of the seed-cell partitions are designed to operate as a screw in drawing the seeds from the seed-box through the openings at the end of the partitions into the cells, the flange on the opposite end preventing the escape of the seed, for the purpose of insuring equal measurement and a steady passage of the seeds.

Claim.—The seed-roller A, having seed-cells *c c c* open at one end, and formed by the diagonal partitions *b b b* and flange *d*, substantially as and for the purpose set forth.

No. 32,319.—JACOB STRAYER, of Miamisburg, O.—*Improvement in Seed Drills.*—Patent dated May 14, 1861.—This invention is explained by the claim and engraving.

Claim.—Making the teeth on one part or portion of the feeding-roller for seed-drills opposite the spaces between the teeth on the other part or portion of said roller, substantially as described, so as to deliver or discharge the seed more uniformly.

No. 32,320.—CHARLES TITTERTON, of Rohampton, England.—*Improvement in Preparation of Oxide of Zinc for a Paint.*—Patented in England November 4, 1856.—Patent dated May 14, 1861.—The nature of this invention consists in giving greater body to zinc white by submitting it to great pressure, whereby, it is alleged, the character of the product is materially changed.

Claim.—The subjecting of oxide of zinc, when contained in a strong holder, to a great pressure by hydraulic, screw, or other powerful pressure, as described, whereby the density is greatly increased, and its covering powers brought to nearly equal white lead, overcoming a great objection hitherto existing to the use of white oxide of zinc.

No. 32,321.—ROBERT WATSON, of Chatham, Ill.—*Improvement in Permanent Railways.*—Patent dated May 14, 1861.—The rail chair being of the same length as the rail, is constructed with a lip on the inside edge of the base, which curves over to fit the projection of the rail. On the outside edge of the base of the chair are brackets extending up and curved so as to receive wooden wedges, by which the rail is secured to the chair.

Claim.—The employment, in connexion with the rails, of wrought-iron chairs of the same length as the rails, constructed and arranged in the manner described, so as to form a continuous bed or groove for the reception and support of the rails, all as set forth.

No. 32,322.—C. WEITMAN, of Independence, Iowa.—*Improved Broom.*—Patent dated May 14, 1861.—Combined with a conical cap, placed loosely on a screw rod provided with a nut fastening, are two wire straps and a clamping slide, which latter confines the straws in a proper position, while the former protect and confine the ends of the whisks, and give the desired shape to the broom.

Claim.—The two wire frames B B, united to or forming a part of screw rod A, and otherwise constructed as desired, in combination with the slide *g*, the conical cap C, and screw handle D, all arranged as and for the purposes set forth.

No. 32,323.—M. G. WILDER, of Meriden, Conn.—*Improvement in Sewing Machines.*—Patent dated May 14, 1861.—This invention is explained by the claim.

Claim.—The combination of the shaft or stock of the looper with a pitman that rises and descends in directions transverse to the longitudinal movement of the looper, by means of plates fitted with inclined projections, whereby an intermittent lateral movement is imparted to the looper, substantially as set forth.

Also, the combination of the looper shaft or stock with a pitman operated by a crank pin, by means of a pin and slotted cam plate, the form of the cam slot being such that the point of the looper, when moving in both directions, is caused to pass by the back of the needle sooner than it would if moved by the crank pin alone, substantially as set forth.

Also, the combination of the shaft or stock of the looper with a pitman, by means of blocks or plates fitted with inclined projections, and with a pin and cam slot, whereby the before-described longitudinal and lateral movements of the looper are derived from the movement of a pitman operated by a crank pin, substantially as set forth.

Also, the combination of an eye-pointed looper with a hook at its butt, substantially as set forth.

No. 32,324.—S. R. WILMOT, of Brooklyn, N. Y.—*Improved Basket for Berries.*—Patent dated May 14, 1861.—The body of the basket is constructed of thin sheet metal cut by means of dies to form ribs or splints bent at their lower ends to form, in connexion with circular discs, the bottom of the basket.

Claim.—A basket for berries constructed of sheet-metal strips or plates cut and bent in the form as shown, and used in connexion with the plates or discs B C; all arranged as shown to form a new and improved article of manufacture for the purpose specified.

No. 32,325.—J. N. WILSON, of Mount Bethel, Pa.—*Improved Washing Machine.*—Patent dated May 14, 1861.—The rubbing wheel, having its upper surface provided with ribs, is placed on a level with the upper part of the suds box, and is encompassed by a plate which is flush with the upper surface of the wheel. A rotary movement is given to the wheel upon which the clothes are placed, by which the washing is effected.

Claim.—The combination of the horizontal, rotating, rubbing wheel D and suds box B, arranged substantially as and for the purpose set forth.

No. 32,326.—HENRY WINTER, of Hackney, England.—*Improved Machine for Weighing Sacks.*—Patented in England September 15, 1859.—Patent dated May 14, 1861.—At the centre of a skeleton framing a toothed rack is adjusted loosely in a vertical position, and to one side of the bottom of the rack is a platform to receive the sack or other weight to be raised. By means of toothed pinions and gearing, operated by a crank, the weight is raised to any desired height.

Claim.—A machine or apparatus of the construction substantially as described and for the purpose set forth.

No. 32,327.—CHARLES B. WOOD, of New York, N. Y.—*Improvement in Carriages.*—Patent dated May 14, 1861.—Secured to each side of the carriage body is a metal strap connected at one end by thorough braces to a C spring, the lower ends of which is secured to the upper part of an elliptic spring; to the inner end of the latter is attached a bar, having an eye in its end fitted between lugs attached to the metal strap on the carriage body.

Claim.—The arrangement, in the manner shown and described, of the bar G and springs F, with the springs F and carriage body A, all as set forth.

No. 32,328.—GEORGE WOOD, of Strasburg, Pa.—*Improved Field Bucket.*—Patent dated May 14, 1861.—This invention relates to an improvement in cans or buckets for carrying water, and it consists in providing the upper and under sides of the lid with grooved adjustable holders, between which a number of tin cups are made to slide and be held by their bottom edges.

Claim.—The lid E, with slots H in combination with the grooved adjustable bars F extending across the upper and lower sides of the lid, for the purposes set forth.

No. 32,329.—JOHN E. WOOTTEN, of Philadelphia, Pa.—*Improved Hydrostatic Pressure Indicator.*—Patent dated May 14, 1861.—This invention consists of a ram operating through a permanent self-tightening packing, and in a cylindrical opening in a block of any appropriate shape for forming a communication between the said opening and the space beneath the ram of a hydrostatic press, in combination with a spring, a pointer, a graduated index plate, and suitable appliances for transmitting the motion of the spring to the pointer, by means of which the exact amount of pressure on the ram of a hydrostatic press can be ascertained.

Claim.—The ram G, the cylindrical opening *x* in the block E, and the permanent, self-tightening packing *h*, when the said block is of an appropriate shape for forming a communication between the said opening *x* and the space beneath the ram of a hydrostatic press, and when the whole is combined with an elliptical or other suitable spring, the pointer Q, graduated index plate D, and the devices described, or their equivalents, for transmitting the motion of the spring to the pointer, substantially in the manner and for the purpose set forth.

No. 32,330.—LINUS YALE, jr., of Philadelphia, Pa.—*Improvement in Locks.*—Patent dated May 14, 1861.—The piece E constitutes the key, and consists of a small steel shaft, with its outer end provided with a small crank, by means of which it can be rapidly rotated so as to bring the tumblers in the required position. The parts D D are the tumblers, the periphery of each of which is indented with a series of notches extending around it, with the exception of a small space to afford a stop for the key ring, and to count off the position from. The piece C is a fence and bolt guard hung to the bolt by means of a screw in a projection; its lower part forms an arm so arranged that when the bolt is unfairly attempted or the tumblers improperly arranged, the said arm will rise and abut against a stop, and prevent any further retraction while the tumblers remain in said position.

Claim.—First, the piece E, or its equivalent, used in the manner or an equivalent manner, and for the purpose substantially as described.

Second, the parts D D D D, or their equivalents, deriving motion in the manner substantially as described.

Third, the piece C, or its equivalent, with its arm *g*, for the purpose and object described.

No. 32,331.—LINUS YALE, jr., of Philadelphia, Pa.—*Improvement in Locks.*—Patent dated May 14, 1861.—This invention consists in the application to locks of a combination of devices, as a ratchet wheel, a pin, and an arm, for the purpose of rendering unavailing any attempt to ascertain the differences between, or position of the tumblers, levers, or stops.

Claim.—The application to locks of the parts E *e*1 *e*2 *d* and M, or their equivalents, for the purpose and object substantially as described.

No. 32,332.—JAMES YOUNG, of New York, N. Y.—*Improvement in Electro-Magnetic Bathing Apparatus.*—Patent dated May 14, 1861.—The nature and object of this invention will be understood from the claims.

Claim.—First, the combination of a bath tub with non-conducting sides and bottom, with metallic conducting ends, each end attached—the head to the positive and the foot to the negative pole of a helix, or *vice versa*, substantially as and for the purpose set forth.

Second, the employment of insulated rock-shafts *b*, applied in combination with the supporting rods *a a'*, and with the tub A, substantially as described, for the purpose of imparting to the tub an oscillating motion, while, at the same time, its insulation is preserved.

Third, the arrangement of the adjustable metallic plates *i i'*, in the steam jacket E, in combination with the electro-magnet M, as described, for the purpose of supporting certain parts of the body, and of passing the current through certain portions of the body of the patient.

Fourth, the combination of an electro-magnet M, bathing tub A, and metallic vessel H, with a rose *m*, constructed and operating as and for the purpose set forth.

Fifth, wrapping the sponge *s'* round a copper ball *s*, as and for the purpose specified.

Sixth, so combining the swinging tub A, switch N, and electro-magnet M, that by the oscillating motions of the tub the current is changed.

Seventh, the combination of the bathing tub A, electro-magnet M, metal strips *q q'*, and brakes *r r*1 *r*2 *r*3 *r*4 *r*5 *r*6, constructed and operating substantially as and for the purpose set forth.

Eighth, so arranging the top rail *a**, on the sides of the tub, that the same projects over inside and outside, in the manner and for the purpose described.

No. 32,333.—CHARLES R. ALSOP, of Middletown, Conn., assignor to J. W. ALSOP, of New York, N. Y.—*Improvement in Revolving Fire-Arms.*—Patent dated May 14, 1861.—This invention consists in a means of obtaining a longitudinal movement of the many-chambered cylinder, for the purpose of forcing it up tightly against the barrel, to make a tight joint therewith at the time of firing, and of drawing it back out of contact therewith previous to its rotary movement. It also consists in a mechanism for effecting the cocking of the hammer, the rotation and stoppage of the cylinder, and in the mode of applying the trigger.

Claim.—First, combining the oscillating cam H with the cocking lever, so as to be operated by and with the said lever, to permit the backward longitudinal movement of the cylinder, substantially as described.

Second, the spring K, applied and operating in combination with a stud or projection *t*, on the side of the oscillating cam H, to produce the necessary movement of the said cam to give the cylinder the forward longitudinal movement, substantially as set forth.

Third, effecting the cock of the hammer by means of a stud or projection *s* on the side of the oscillating cam H, substantially as specified.

Fourth, placing the spring *b* by which the backward longitudinal movement of the cylinder is produced within the axis pin itself, substantially as and for the purpose specified.

Fifth, combining the axis pin D with a pin F, which attaches the rammer shell to the frame A by means of the spring *b*, the pin *c*, and the notch *e*, all applied and operating substantially as described.

Sixth, the hanging of the trigger and sere on the axis pin of the cam by which the forward longitudinal movement is produced, substantially as described.

Seventh, the hanging of the cocking lever J on the axis pin of the cam by which the forward longitudinal movement of the cylinder is produced, substantially as described.

Eighth, the employment of the same pin I, as the axis of the cam H, and the fulcrum of the cocking lever, the trigger and the revolving lever or dog, substantially as specified.

Ninth, combining the axis pin I, of the cam by which the forward longitudinal movement of the cylinder is produced, with the movable side plate of the stock, by means of the counter-sunk hole in the said plate, and the screw 20 passing through the said plate and screwing into the said pin, substantially as and for the purpose described.

Tenth, making the locking and stop notches *i i* in the periphery of the rear journal of the rotating cylinder, substantially as described.

No. 32,334.—MOSES DUCHARME, of Cohoes, N. Y., assignor to Himself and GEORGE DUCHARME, of the same place.—*Improvement in Locks.*—Patent dated May 14, 1861.—This invention consists in the combination of an escutcheon, shackle, and bolt, all constructed and arranged together and with a single spring, which at once forms the spring tumbler of the bolt, and the spring by which the escutcheon is made to hide the key-hole and lock the shackle. The front and back plates of the lock are secured together and to the properly perforated trunk or chest by means of notched lugs formed upon the front plate in connexion with corresponding slots in the back plate, so that the lock is secured together and to the trunk by means of the plates alone, and can also be removed from and replaced upon the trunk by the hands alone without the use of a screwdriver or other tool.

Claim.—The combination of the latch bolt A, shackle B, escutcheon C, and spring tumbler and escutcheon spring D J, all constructed and arranged substantially as shown and specified.

Also, the construction of the front plate E, with notched lugs *y* and the back plate *h*, with corresponding slots *z*, as and for the purposes set forth.

No. 32,335.—CHARLES H. LEFFINGWELL, of Providence, R. I., assignor to Himself and P. B. CARPENTER, of North Providence, R. I.—*Improvement in Boot-Legs.*—Patent dated May 14, 1861.—The leather to form the boot-leg is cut in the form shown by the engraving, and elastic gores are introduced into each side of the leg in such a manner that the boot-leg will accommodate itself to conformation of the ankle and the calf of the leg.

Claim.—A boot-leg constructed of the pieces A D D F and E, cut in the shape represented in the drawings, with the elastic pieces G G introduced in the manner and for the purposes set forth.

No. 32,336.—C. O. LUCE, of Brandon, Vt., assignor to Himself, F. M. STRONG, and J. F. ESTABROOK, of the same place.—*Improved Washing Machine.*—Patent dated May 14, 1861.—The bottom of the tub rests upon rollers, and is provided with a toothed ring, which receives motion from a pinion attached to an arbor provided with a bevel gear meshing with a corresponding gear on the driving shaft; this shaft carries a series of pinions gearing into toothed racks, secured to the upper ends of the stems of the pounders placed at the side of the tub. As the tub rotates, the clothes are brought successively under the pounders.

Claim.—The arrangement of the racks *j*, pinions *i*, shaft E, and rollers *l*, with the stems *k*, pounders F, rotary tub A, shaft D, and gearing *f g e e B*; all as shown and described for the purposes set forth.

No. 32,337.—GEORGE MURRAY, of Cleveland, Ohio, assignor to Himself and SARAH G. HIBBERT, of the same place.—*Improvement in Water Elevators.*—Patent dated May 14, 1861.—The bottom of the bucket is provided with a valve on its upper and lower sides, the two being connected by a piece, one side of which is shorter than the other, so that when one valve is horizontal the other is inclined. As the bucket is raised full of water, the under valve comes in contact with a division in the curb and parallel with the bottom of the spout, which raises the upper valve and allows the water to flow into the spout. The rope is prevented from slipping by being compressed between the pulley and a roller against which the pulley bears.

Claim.—First, the circular spout N N′, in combination with the double oblique valves L L′, when the same are constructed, arranged, and operated as and for the purpose set forth.

Second, the arrangement of the pulleys C D, for the purpose of compressing the rope in order to prevent its slipping, as specified.

No. 32,338.—JOSEPH NEUMANN, of Philadelphia, Pa., assignor to GEO. W. ROBERTSON, of the same place.—*Improvement in Hydrants.*—Patent dated May 14, 1861.—Attached immediately to and around the upper part of the barrel of the cock, and within the usual hydrant case, is a short tubular case or guard so constructed as to enclose the upper joint of the cock in a water-tight manner, by which means earth or sand, which cause grinding away and consequent leakage, are prevented from coming in contact with the said joint.

Claim.—The case or guard B, in combination with the upper end of the barrel of a hydrant cock, the said case or guard being constructed and applied to the cock, substantially in the manner described and for the purpose specified.

No. 32,339.—JOHN RANGE, of Meriden, Conn., assignor to J. and E. PARKER, of the same place.—*Improved Thumb Latch.*—Patent dated May 14, 1861.—This invention consists of a slide bolt provided with a double-beveled surface, against which the thumb piece of the latch acts, the bolt being fitted to a frame or plate and provided with a spring and button, the whole so arranged as to be capable of being applied to either a right or left hand door, and of being locked or buttoned at the side on which the slide bolt is placed.

Claim.—The slide bolt B, attached to a frame or plate A, and provided with a spring *d*, and the central bow-shaped part having doubled-beveled surfaces *b b′*, in connexion with the thumb piece D, and with or without the button G, as and for the purpose set forth.

No. 32,340.—SHERIDAN ROBERTS, of Cleveland, Ohio, assignor to Himself and ALFRED ADAMS, of the same place.—*Improved Barrel.*—Patent dated May 14, 1861.—The cylindrical portion of the barrel is formed of sheets cut from the surface of a solid cylinder, and the bulge is formed by cutting out gores or wedge-shaped pieces from each end, leaving the middle whole, so that, bringing the cut ends together by means of hoops, the barrel will have the desired bulge.

Claim.—The making of the cylinder part of barrels of a volute piece or pieces, having gore or wedge-shaped pieces cut from each end as described, for the purpose of forming the proper bulge to the body of the barrel, in the manner set forth and described.

No. 32,341.—W. DEWEES WOOD, of Wilmington, Del., assignor to A. WOOD, of Philadelphia, Pa.—*Improvement in the Manufacture of Sheet Iron.*—Patent dated May 14, 1861.—This invention is explained by the claim.

Claim.—First, removing the scales of oxide of iron from the plate of iron in the manufacture of sheet iron, by annealing it and then passing it successively between corrugated and plain rolls or presses, substantially as described.

Second, the coating of the plates of iron with graphite or plumbago, or other carbonaceous matter, ground in oil prior to the finishing process, in the manner and for the purpose substantially as set forth.

Third, the coating of the rolls with graphite or plumbago, or other carbonaceous matter ground in oil, for the purpose of finishing the outer surfaces in the manner described.

No. 32,342.—LEWIS L. MILLER, of Jersey Shore, Pa.—*Improved Washing Machine.*—Patent dated May 14, 1861.—A corrugated rubber is attached, by means of arms, to a shaft, the ends of which are journaled in the upper part of a slide, which moves in uprights secured to the sides of the tub. To the lower part of the slide is attached the end of a volute spring, which serves to keep the rubber down upon the clothes; the pressure may be regulated by means of a lever fulcrumed so as to raise the slides and rubber as may be desired. Fitted in boxes inside of the tub are rollers, the boxes being composed of two metallic plates of segmental form, having holes to receive the gudgeons of the rollers forming the concave.

Claim.—First, the arrangement of the rubber E, handle H, slides I, studs *b*, volute springs K, and hand lever J, the whole being constructed, combined, and operated, in the manner and for the purposes shown and explained.

Second, the combination and arrangement of the boxes L L, rollers D D, and tub A, constructed and applied in the manner and for the purposes shown and explained.

No. 32,343.—M. L. BAKER, of Milford, N. Y.—*Improved Apparatus for Milking Cows.*—Patent dated May 21, 1861.—This invention consists in the use of two pumps arranged with a receiving chamber, valves and conducting tubes, the reservoir being provided with a valve operated by a lever for the admission of air, so that the device may readily be detached from the teats of the cow in case the latter becomes unruly.

Claim.—The two cylinders A A′, provided with plungers C C, sacks D D, and valves *a a′ c c*, in combination with the tubes B′E and the reservoir F, with teat tubes G attached, all being arranged for joint operation, as set forth.

Also, the valve H in the reservoir F, arranged substantially as shown, to effect a ready detachment of the teat tubes G from the teats of the animal, as set forth.

No. 32,344.—WALTER BAKER, of West Winsted, Conn.—*Improvement in Manufacture of Hoes.*—Patent dated May 21, 1861.—This invention consists in a method of constructing the eye and blade of the hoe from a single piece without welding. A piece of metal plate having a hole punched in it is placed, after being properly heated, on a perforated anvil or die-plate, with the hole just under the point of a tapering die or sinker, grooved at its lower end, and attached to a drop. The eye is formed by the continued action of the die as it is dropped, when the blade is drawn out and properly shaped.

Claim.—As an improved article of manufacture a hoe formed from a single piece of metal, in the manner substantially as shown and described.

No. 32,345.—ROBERTS BARTHOLOW, of U. S. Army.—*Improved Water-proof Cartridge.*—Patent dated May 21, 1861.—This invention consists in the combination of nitrate of potassa, charcoal, sulphur, and chlorate of potassa, reduced to a powder, and incorporated with the collodion tincture of shellac to a semi-fluid consistency. The mixture is then put into suitable moulds and allowed to harden. When dry, the cartridges are coated with the collodion tincture of shellac.

Claim.—The within-described solid water-proof cartridge, made in the manner and for the purpose herein specified.

No. 32,346.—G. E. BEATTY and C. S. BEATTY, of Norwalk, Conn.—*Improvement in Apparatus for Forming Hat Bodies.*—Patent dated May 21, 1861.—The hat-block rests upon a screw which passes through the lower bar or bed piece, and fitted upon rods which connect the upper and lower pieces together is the steam bed, which is made of metal, and has an annular recess in it which serves as a steam-chest. Upon this bed is an annular clamp, within which is a smaller clamp. These clamps are held down by screws passing through the top piece, and serve to retain the felt, which is pressed up by means of the hat-block, operated by the lower screw.

Claim.—The steam hat-block E, steam bed D, and the clamps G I, arranged for joint operation, substantially as and for the purpose set forth.

No. 32,347.—HARRY S. BARTHOLOMEW, of Bristol, Conn.—*Improved Ball Brace.*—Patent dated May 21, 1861.—This invention consists in applying and holding in place the tubular oval or ball-shaped hand-block of curved brace-bit stocks without cutting the ball in two, which is effected by slipping the block over the metal rod before it is bent in the form required, and confining it near the centre of the rod by means of two ring-collars, which are shrunk or otherwise fastened on the rod at each end of the ball.

Claim.—A ball-brace A′, made of a single straight rod A, and with an undivided ball B fitted upon its bow-shaped portion, substantially as and for the purposes described.

No. 32,348.—C. BIXLER, of Rogersville, O.—*Improvement in Water Elevators.*—Patent dated May 21, 1861.—To the bottom of a well is secured a box of any desired capacity, made open at the top and closed at the bottom, the latter being provided with an inlet valve. At the side of the box near the bottom is an outlet valve. Within the box is a solid piston attached to a rod, which latter passes through the floor. The piston is raised by means of a rope or chain upon a shaft in the well-curb, which causes the box to be filled with water. As the piston descends it forces the water through the lower part of the box into a pipe at its side, whence it may be carried by pipes to any convenient place for service.

Claim.—The combination of box A, chamber B, and valves *a* and *c*, pipe C, with the weighted piston D, rod E, rope or chain *g*, shaft *h*, gear-wheels *i* and *k*, and crank-shaft *m*, all arranged in the manner and operating as a whole, for the purpose herein described and shown.

No. 32,349.—GEORGE BRUCE, sen., of Sing Sing, N. Y.—*Improvement in Burglar Alarms.*—Patent dated May 21, 1861.—To each side of an upright standard is secured an arm, having on their undersides a brace attached thereto by a joint. One of these arms is set against the door, and the other penetrates the floor, so as to prevent the upright from being pushed back. On the upper end of the upright is a plate to which may be attached a small pistol-barrel or belt and a gun-lock hammer, so arranged that upon an attempt being made to open the door the hammer will be actuated and cause an alarm to be given.

Claim.—The combination, for the purpose specified, of the arms D E, the upright A, hammer H, and "sere" K, with a fire-arm barrel J, or a bell, or other alarm-sounding device, arranged to be operated by the hammer, substantially as set forth.

No. 32,350.—E. W. BULLARD, of Barre, Mass.—*Improvement in Machines for Turning and Spreading Hay.*—Patent dated May 21, 1861.—The forks are attached at their lower ends to a crank-shaft, so arranged as to bring the forks to the ground successively. Their upper ends are pivoted to swing-holders which are jointed to the rear of the frame. The crank-shaft is driven by a belt operated by the wheel. To the lower ends of the forks are attached tines or prongs, formed by making a loop in the middle, then winding a short coil on each side, the ends being fastened by a pin, so that the prongs are allowed to turn forward loosely, but held from turning back except by their spring.

Claim.—Giving a number of forks, arranged to operate successively a backward and forward motion by means of the crank shaft, or similar mechanism, when constructed and operating substantially in the manner and so as to accomplish the purposes set forth.

Also, the prongs P, when constructed as described and used in combination with the arms or forks O, in the manner and for the purpose specified.

No. 32,351.—ALBERT S. CLARK, of Dryden, N. Y.—*Improved Sled Brake.*—Patent dated May 21, 1861.—Attached to the runner of the sled is a bent arm, having at its lower end a claw, its upper end being provided with a slot, in which works a pin on the end of a link, which is connected with a lever near the forward part of the sled. By actuating the lever the claw is forced down upon the ground.

Claim.—The combination of link E and beam H with the slotted arm D, the whole being constructed and arranged as and for the purposes herein shown and described.

No. 32,352.—W. C. COOK, of Appleton, Wis.—*Improved Bed-Spring.*—Patent dated May 21, 1861.—The springs are arranged in chains secured in parallel rows to the head and foot-rails. These chains consist of loops and links formed of two parallel arms and a curved transverse portion, the loops being kept in an inclined position, as shown by the engraving.

Claim.—Constructing the bed-springs of loops *d* and links *a a b*, formed of wire and connected together, as herein described and shown.

No. 32,353.—ROBERT CORNELIUS, of Philadelphia, Pa.—*Improvement in Electrophorus.*—Patent dated May 21, 1861.—The metallic plate of the electrophorus is constructed with a cover of leather or other proper exciting material, so that by simply sliding the two plates together for an instant, the electricity shall be excited through the leather, obviating the necessity of employing a separate rubber.

Claim.—The covering of the whole or a part of the face of the metallic plate B with leather or similar material, substantially as above described.

No. 32,354.—ROBERT CORNELIUS, of Philadelphia, Pa.—*Improved Frictional Electric Machine.*—Patent dated May 21, 1861.—The electric generators enclosed in cases are so constructed that the rubber is connected externally with the spring and with the adjusting apparatus, or with either, instead of having these parts enclosed within the case. The rubber is constructed with an elastic backing of leather or cloth, having a tin or metallic foil interposed between the leather and the packing, for the purpose of maintaining the full elasticity of the rubber, and at the same time retaining its efficiency as a generator of electricity by the employment of the metal foil. A spring and an adjusting screw are so arranged as to maintain an uniform and regular pressure of the rubber upon the revolving disk in the case. Around each surface of the disk is placed a series of grooves, for the purpose of rendering its action in generating electricity more prompt at the first start.

Claim.—First, applying the spring or adjusting screw to the rubber outside of the case, and bringing the same into action through the case.

Second, the employment of the elastic backing for the rubber in combination with the metallic foil placed between the back of the rubber and elastic cushion.

Third, the placing of the elastic cushion in a recess of the case, or in a metallic box made to fit in a recess in the case.

Fourth, the employment of the circular spring *k* in combination with the rubber.

Fifth, the combination of the adjusting screw *h* and the circular spring *k*, arranged and operated as above described.

Sixth, attaching the leather facing of the rubber directly to the facing.

Seventh, the manner of constructing and attaching the collecting piece *o* between the two grooves in the box, substantially as described.

Eighth, the employment of a series of grooves around the surface of the disk, for the purpose described.

No. 32,355.—JOHN J. CROOKE, of New York, N. Y.—*Improvement in the Manufacture of Tin Foils.*—Patent dated May 21, 1861.—This invention is designed to produce long sheets or webs, or ribbons of compound foil, with smooth edges, and having a uniform and uninterrupted tin surface.

Claim.—The combined process, substantially as herein described, for producing ribbons or webs of compound foil, viz., by first welding the lead and tin together, and then reducing in thickness by rolling. Secondly, by trimming the edges and shearing off the exposed lead; and, thirdly, by reducing the trimmed sheets or ribbons into webs or ribbons of foil by rolling, each of these steps of the process, and the process as a whole, being substantially such as hereinbefore set forth.

No. 32,356.—HENRY G. CROWELL, of Roxbury, Mass.—*Improvement in Pumps.*—Patent dated May 21, 1861.—Attached to the lower end of a revolving shaft, and under the platform, is a three-armed cam, the ends of the cams being provided with friction wheels, which are made to operate two vibrating arms attached by pivots at one end to the under side of the platform; the other ends of these arms are connected by a metal strip, so as to bring the arms into a position to be acted upon alternately by the cam wheels. To the vibrating ends of the arms are attached ropes, which pass over pulleys and are secured to the ends of the pump lever, by which means, as the shaft is rotated, motion will be given to the pump lever, which actuates the piston rods.

Claim.—The combination and arrangement of the cam wheel C, arms E and F, connecting strip G, ropes or chains J and K, pulleys I L and M, and pump brake or lever S, substantially as and for the purpose described.

No. 32,357.—CALVIN CUTLER, of Tonawando, N. Y.—*Improved Device for Hiving Bees.*—Patent dated May 21, 1861.—This invention consists of a box having at one end an opening provided with a sliding door, and an opening in the top. The sides and one end of the box are covered with wire netting, for the admission of light. This box is fastened to the hive by hooks, and the swarm is allowed to pass through the lower opening to a hive placed upon the top of the box.

Claim.—The above described swarm-catcher, when attached to a bee-hive and constructed and operating in the manner and for the purpose set forth.

No. 32,358.—W. FREEMAN, of Mount Carmel, Conn.—*Improvement in Lamps.*—Patent dated May 21, 1861.—The upper part of the body of the lamp is provided with an air or draught passage on each side, the tops of which passages are perforated and the perforations covered by guards or flaps, for the purpose of preventing the flame from flickering when the lamp is moved.

Claim.—In connexion with the draught passages B B and ring E, provided with the deflector H, the guards or flaps *c c* placed over the openings or perforations *b b*, to operate as and for the purpose set forth.

No. 32,359.—SAMUEL FULTON, of Conshohocken, Pa.—*Improvement in Casting Pipe.*—Patent dated May 21, 1861.—This invention consists in the use of a flask and pattern, the former having its internal diameter greater than the external diameter of the pipes, and by means of any suitable power drawn vertically through the flask while the latter is supplied with sand, thereby forming the mould without the operation of "hand ramming." The flask is provided with slides at suitable points to admit of boss patterns being applied to the pattern, for the purpose of forming the mould, so that the bosses may be cast on the pipes. A ring or bead pattern is also used in connexion with a joint in the flask, so as to enable the mould to be so formed that the pipes may, when required, be cast with beads at one end.

Claim.—First, forming moulds for casting pipes by drawing up vertically through a proper flask A a pattern B while the sand is being poured into the flask, the pattern being formed substantially as described, so as to compress the sand without any ramming or other treatment thereof.

Second, forming the flask A of three parts *a b* and *c*, the part *a* being smooth, and the parts *b* and *c* provided with internal rings or projections, to operate as and for the purposes set forth.

Third, in connexion with the two parts *a* and *b* of the flask, the ring C, provided with the bead *k'*, arranged as and for the purpose specified.

Fourth, the boss patterns *m*, when inserted through slides *l* in the sides of the flask and adjusted to the pattern B, as and for the purpose set forth.

No. 32,360.—R. A. GOODYEAR and L. A. SPRAGUE, of Binghamton, N. Y.—*Improvement in Skates.*—Patent dated May 21, 1861.—The foot-stand and skate-iron are connected together by supporting rods, pivoted to the stand and iron in such a manner as to admit only of a vertical motion. Between each rod and the foot-stand is secured a wedge-shaped block of India-rubber, by means of which a yielding, elastic motion is allowed to the foot-stand.

Claim.—A skate that has the runner and foot-stand connected by jointed arms D E, with elastic material G' between the arms and the foot-stand, and otherwise made substantially as herein shown and described.

No. 32,361.—HENRY A. HALL, of Boston, Mass.—*Improved Portable Filter.*—Patent dated May 21, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—A portable filter, constructed of an India-rubber tube A, perforated cap B, neck *a* flexible tube C, and mouth-piece D, as herein described and shown.

No. 32,362.—CHARLES HARASYTHY, of San Francisco, Cal.,—*Improvement in Portable Water-Gas Apparatus.*—Patent dated May 21, 1861.—In the front part of the stove, and resting upon the grate, are two cylinders *c c*, which contain charcoal for the decomposition of the steam, and are connected by a tube with the boiler. A retort is placed in the rear of the fire-chamber, and gas, as it is generated, passes into a gasometer. The apparatus is designed to be attached to a parlor or cooking stove.

Claim.—The combination of the cylinders *c c* with the retort F, boiler *b*, and tube *g*, in connexion with a stove used to produce gas as well as for heating, cooking, and baking, substantially as described, and for the uses and purposes set forth.

No. 32,363.—CHARLES Y. HECKLER, of Philadelphia, Pa.—*Improvement in Copying Presses.*—Patent dated May 21, 1861.—The parts of which this press is composed are constructed and arranged with a view of affording ready access to the space between the platen and base of the press—of applying pressure to the platen without the necessity of securing the base of the press to a table or disk—of rendering the platen self-accommodating to the copying book—of adjusting the platen and lever for operating the same to books which differ slightly in thickness, and of retaining the operating lever and platen in an elevated position while the book is being adjusted to the base.

Claim.—First, the base A, the overhanging arm B, platen C, and the lever D, or other equivalent device for applying pressure to the platen, the whole being arranged substantially as set forth, for the purpose specified.

Second, the bell crank-lever D, hung to the overhanging arm B and provided with a roller *f*, in combination with the platen C, its projection *d*, and elongated opening for the reception of the pin which hinges the platen to the arm B, the whole being arranged substantially as and for the purpose herein set forth.

Third, the lever D, with its projecting pins *j*, in combination with the platen, its projections E and E', and the lips *m m* of the latter, the whole being arranged substantially as and for the purpose herein specified.

Fourth, the adjustable wedge-formed plate *h*, applied to the platen and arranged in respect to the roller *f* of the lever D, as described, for the purpose herein set forth.

Fifth, the pin *x* on the lever D, when arranged in respect to the orifice *y* in the end of the overhanging arm B, as described.

No. 32,364.—F. L. HEDENBERG, of New York, N. Y.—*Improved Fireplace Heater.*—Patent dated May 21, 1861.—Projecting forward over the grate is a perforated draught-plate, behind which is a perforated sliding-plate, so arranged as to serve as a regulator, to cause the gases, &c., to pass through the draught-plate or over the same. Underneath the extension flue and behind the grate is a wedge-shaped drum, between which and the back plate of the grate is an air-chamber, to which air is admitted at the bottom, and, after being heated, may be conveyed to an upper room.

Claim.—The open grate, the draught-plate, the extension flue, the drum and air space between it and the back-plate, and the connecting passages, when arranged and operating together, substantially as herein described and for the purpose set forth.

No. 32,365.—WILLIAM CLEVELAND HICKS, of Boston, Mass.—*Improved Blind Fastening.*—Patent dated May 21, 1861.—This invention consists in attaching a spring to a plate on the top of each blind or shutter, so as to hold them either open or shut.

Claim.—The within-described blind fastening, consisting of the spring C united to the two halves of the blind, as set forth, for the purpose specified.

No. 32,366.—GEORGE W. HILDRETH, of Lockport, N. Y.—*Improvement in Cultivators.*—Patent dated May 21, 1861.—The cultivator is made to expand and contract by means of horizontal slide irons lapping upon each other, with a bolt passing through slots to hold them at any desired point; connected to the ends of these horizontal irons are two additional slotted irons, crossing each other upwards, and secured in any desired position to a post on the centre bar, for the purpose of giving additional strength to the machine when adjusted to various widths.

Claim.—The double slide irons F F', or their equivalents, with the horizontal slide irons, when used to form a triangular contracting or expanding truss for strengthening the cultivator, as herein set forth.

No. 32,367.—TRIPHENA P. HORNBROOK, of Wheeling, Va.—*Improvement in Bee Hives.*—Patent dated May 21, 1861.—The feeding-box is attached to the door of the outer case in such a manner that it can be removed at pleasure, and is in such a position that when the outer door is closed the feeding-trough shall be in contact with the front of the hive, so that the bees can come out and feed if necessary.

Claim.—Enclosing the whole hive, when constructed and arranged, as herein specified, within an outer case, in combination with the detachable feed-trough attached to the door of the outer case, the several parts being arranged as and for the purposes specified.

No. 32,368.—GEORGE H. HORSTMANN, of Philadelphia, Pa.—*Improved Dust Pan.*—Patent dated May 21, 1861.—The lower portion of the pan consists of an inclined tray with sides, and a reservoir which is covered by a plate, to the front edge of which is hinged a lid that rests on the sides of the tray. Near the hinge of the lid is secured a bent arm projecting into the reservoir, and against which arm bears the lower end of a rod arranged to move freely within a hollow vertical stem secured to the top plate, so that the dust can be swept into the pan; the pan can be moved about by means of the handle, and the cover made to close at the same time; all without the necessity of stooping.

Claim.—First, the pan A, comprising the tray *a* and reservoir *b*, when combined with such a stem that the pan can be removed from place to place, without the necessity of stooping to the extent required in handling ordinary dust pans.

Second, the pan A, formed and constructed substantially as described, its lid *c*, elevated stem D, and the devices herein described, or their equivalents, for operating the said lid, in the manner and for the purpose herein specified.

No. 32,369.—THOMAS H. HOSKINGS, of Detroit, Mich.—*Improved Machine for the Application of Man-Power.*—Patent dated May 21, 1861.—This invention consists in the combination with a main wheel of a frame to which is attached a platform so arranged that a man, by means of his own weight in connexion with his power exerted upon the driving wheels, may impart a steady and uniform amount of motion to a pulley through the medium of a series of gearing wheels.

Claim.—Suspending the frame I I, to the periphery of the main wheel, when the said frame is combined with the platform Q, and with the gearing wheels M M, K K, and L, and when the main wheel A is connected with the pulley G through a system of gearing wheels B C and D, in the manner herein set forth.

No. 32,370.—GEORGE C. HOWARD, of Philadelphia, Pa.—*Improvement in Machines for Punching and Perforating Paper, &c.*—Patent dated May 21, 1861.—The nature of this invention will be understood from the claim; it does not admit of a brief description.

Claim.—First, the endless band *i*, the table B, and vibrating roller S, arranged in respect to the perforating, cutting, or puncturing rollers P and Q, substantially as set forth, for the purpose of presenting a sheet of paper or other material to the said rollers.

Second, in combination with the said perforating, cutting, or puncturing rollers, the line *w*, arranged above the table B, substantially as set forth, for the purpose of adjusting the sheet of paper or other material to a proper position, prior to being subjected to the action of the rollers.

Third, the treadle *l*, or its equivalent, in combination with the strap guide *b*, and vibrating roller S, and the devices herein described, or their equivalents, whereby the depression of the said treadle allows the roller S to fall in the first instance, the further depression operating the strap guide as set forth, for the purpose specified.

Fourth, constructing the roller P with a recess in the face for the reception of the annular plate *p*, and with a flange *q*, having counter-sunk holes for the reception of the pins or punches *y*, as and for the purpose herein set forth.

Fifth, the under roller Q, having a thin periphery with holes, for the reception of the punches of the upper roller and the internal strengthening flange *v*, as described.

No. 32,371.—JOHN H. JENNINGS, of New Bedford, Mass.—*Improvement in Calks for Horseshoes.*—Patent dated May 21, 1861.—This invention consists in providing the shoe, in addition to the usual nail holes, with screw holes in the toe and each heel point, for the purpose of inserting, when desirable, and without taking off the shoe, a calk made with a screw and flange projecting laterally from it and fastened so as to rest on the face of the shoe. In order to prevent the calk from turning around in the screw, one or more screws are employed for each calk.

Claim.—The described application of the calk to the shoes, viz: by means not only of a flange and pivot screw, attached to and projecting from the calk, and with the latter screwed into the shoe, but by one or more key screws, extended through the calk flanch and into the shoe, and made substantially as specified.

No. 32,372.—JOHN JONES, of New York, N. Y., and A. K. RIDER, of Poultney, Vt.—*Improvement in Rotary Pumps.*—Patent dated May 21, 1861.—The casing is composed of two circular sides and a circular band, the latter being somewhat wider at the bottom than the top, and having two elevations cast on its inside opposite each other, so as to form chambers at each end of the elevation. Within the casing are two circular discs, having cogs on their inner surfaces, which cogs on one disc radiate from a central convexity, and on the opposite disc radiate from a central concavity, the teeth or cogs of one passing into spaces between the teeth of the other disc. The rotary motion of the discs produces the suction and forcing power of the pump, so that water will be drawn into the casing on one side and discharged at the opposite side in a continuous stream.

Claim.—The two rotary discs constructed with radial and tapering cogs engaging with each other as described and shown, and arranged in different planes within a tight casing, which is separated into two concentric chambers by divisions *b b'*, substantially as and for the purposes set forth.

No. 32,373.—GEORGE W. KIRCHHOFFER, of Cincinnati, Ohio.—*Improvement in Apparatus for Distilling Coal Oil.*—Patent dated May 21, 1861.—The retort is placed within the space into which the heated air, smoke, &c., is admitted from the furnace, and is of the form of an inverted cone terminating in a pipe or tube which dips into a pan or cistern at the bottom. Inside the retort is a small frustum of a cone forming a kind of mill cylinder, from which a hollow conical centre *O* rises, and through all passes a shaft, by means of which motion is given to the mill cylinder.

Claim.—First, in combination with the upright conical retort D, the grinder N O, when arranged to rotate in proximity with the heated surface of the retort, for the purpose of pulverizing the coal and securing the contact of the same, in a minutely divided state, with the heated surface of retort, substantially as specified.

Second, the arrangement of the upright retort D, grinder N O, and discharge pipe *a*, for the purpose of permitting the pulverized and exhausted residuum to escape from the retort by its own gravity.

No. 32,374.—JOHN C. KOCH, of New York, N. Y.—*Improvement in Portfolios for Filing Music, Printed Matter, &c.*—Patent dated May 21, 1861.—To the covers is attached a round back, which expands and contracts according to the bulk of the contents. The sheets are secured by being pierced by flat spear needles attached to cords, the needles being then secured by placing them in catch or fastening attached to the cover by rubber bands. The cover is provided with a flap or fall, which folds over the needles and fastenings, &c.

Claim.—The round, expanding back, in combination with the spear-shaped needles, stays, catches or fastenings, and the flap or fall, the whole being constructed and operated in the manner and for the purpose substantially as described.

No. 32,375.—JAMES S. MARSH, of Lewisburg, Pa.—*Improvement in Harvesters.*—Patent dated May 21, 1861.—The shaft of the driving wheel is hollow, and a sliding rod with a treadle on its outer end is passed through the same, the said rod extending through a spring and entirely through the axle, and having attached to its inner end a crank arm, which has two inclined teeth formed on the inner face of its box or eye, so that they may gear alternately at each half revolution, with a similarly inclined tooth formed on the shoulder of the driving wheel axle; a third adjustable inclined tooth is attached to the box or eye of the crank arm, in order that the movements of the rake head may be changed accordingly as the grain being cut requires to insure its delivery in sheaves of uniform size.

On the outer side of the draught frame, and near the front, is arranged a ratchet arc, and on one of the standards of the reel support a segment of a grooved pulley is hung, from which pulley a cord passes down and attaches to the rear end of the short tongue by which the harvester is adjusted. To one side of the pulley is pivoted a hand lever, between which and the pulley is arranged a flat spring supported on the lever, by which means the driver can easily adjust the harvester, the spring holding the lever in the ratchet of the arc. In the rear of the support of the driver's seat is a casting, having slots, through which plays a vertical lever having a forked clutch on its lower end, by means of which the driver can readily throw out and in gear the large bevel wheel which actuates the pinion of the crank shaft of cutter bar.

Claim.—First, combining with an automatic harvester rake and a harvester, devices substantially such as described, whereby the rake is caused automatically to ungear with the axle of the driving wheel, when the parts are adjusted to allow the driving wheel to make more than one revolution, for the purpose set forth, substantially as described.

Second, the arrangement of the angular rake head E *e e'*, jointed at one end to a fixed standard *f*, the crank D, pitman G, connecting link F, traversing slide H', and guideway H, for joint operation as described, and whereby the rake has the necessary movements upward in an inclined position, and back and forth, relatively to the platform, substantially as set forth.

Third, the combination with the hollow axle A, of the driving wheel, of the sliding rod of the crank-shaft, substantially in the manner and for the purpose described.

Fourth, pivoting the lever W to the pulley U, in combination with the flat spring *x*, bearing against the pulley U, and with the ratchet-toothed arc R, and the short tongue 3, in the manner described.

Fifth, the casting L, forming the upper half of the box of the pinion-shaft, and the standard guide and stop, as described, in combination with the pinion-shaft and with the lever *u*, forming a clutch and a spring catch, in the manner and for the purpose described.

No. 32,376.—THOMAS J. MAYALL, of Roxbury, Mass.—*Improvement in Ordnance.*—Patent dated May 21, 1861.—The nature of this invention will be understood from the claim.

Claim.—The arrangement described of supporting the gun barrel and its revolving cylinder so that the same may be swung round horizontally, and be raised, depressed, and set at any desired angle with the horizon by means of a brace or frame extending under said barrel and cylinder, and being pivoted or hung on a stationary axle in suitable brackets fast on a plate, capable of horizontal rotation, substantially as shown and described.

The arrangement and application, substantially as described, with respect to the frame supporting the gun and the mechanism for automatically performing its functions, of the devices for pointing the gun in any desired direction, so that the latter may be effected simultaneously, independently of and without interfering with the operation of the former, substantially as shown and described.

Arranging the two shafts that receive and impart motion to the gun-operating mechanism, and in such a manner that they shall be located within the vertical plane passing transversely through the centre of gravity of the gun and its appurtenances, or thereabouts, whereby the gun may be operated with ease, substantially as shown and described.

Providing the rotary shaft *e* with a stud or projection *f*, when so arranged as to actuate the spring clutch with which it is combined at every revolution of said shaft, and, at proper intervals of time, to release its hold on the breech, as set forth.

The rotary shaft *e*, and the stud or projection *j*, when the same are combined with and arranged in relation to the breech operating lever pawl to actuate the same to perform its functions, as shown and described.

No. 32,377.—NICHOLAS A. MENAAR, of Buffalo, N. Y.—*Improvement in Railroad Signal Lanterns.*—Patent dated May 21, 1861.—This invention consists in the arrangement of a cylinder of colored glass which is made to slide up over the lamp, &c., within the glass globe. The cylinder is supported, when raised, by means of springs pressing against the inner side of the case. Attached to the spring is a thumb-piece which passes through a slot in the case, by means of which the cylinder is moved up and down.

Claim.—The specific arrangement of the colored glass cylinder A, the same being connected to its metallic bottom B, with the spring *c*, and slot D, the said parts being arranged to operate relatively to each other, and to the supporting stand, lamp, and globe of white glass, for the purposes as set forth.

No. 32,378.—MORTIMER NELSON, of New York, N. Y.—*Improvement in Balloons.*—Patent dated May 21, 1861.—This invention consists in the attachment of a series of fans arranged in one or more pairs to shafts set in a frame, motion being given to the fans which revolve in opposite directions by any suitable power. The frame is fitted to move upon the cross-shaft as a centre, so that the shafts and fans may be set in either a vertical or an inclined position.

Claim.—First, the employment with a balloon of one or more pairs of fans *e e*, revolving in opposite directions, for the purposes and as specified.

Second, arranging the shafts *f f*, carrying the fans so that they can be inclined to the body of the car or balloon, for the purposes set forth.

Third, the awning or parachute *b*, arranged at a slight inclination in relation to the car or the movement of the balloon, and forming a buoyant sail in combination with the fans or propellers *e e*, for the purposes specified.

No. 32,379.—WILLIAM D. NICHOLS, of Davenport, Iowa.—*Improved Device for Milking Cows.*—Patent dated May 21, 1861.—The pump cylinder, being secured to a block, is provided about midway of its length with a transverse rigid diaphragm having an opening with a valve on the under side, and connecting the upper and lower chambers. Below the diaphragm is situated the main actuating piston, provided with a valve and opening which connects with the eduction pipe.

To the top of the compresser are fitted levers, for the purpose of expanding them as they are adjusted to the teats of the cow.

Claim.—The elastic auxiliary piston I, in combination with the actuating piston D, and diaphragm C, substantially as and for the purposes specified.

Also, the combination of the levers T T with the top of the elastic compresser S, for the purpose of easily adjusting the cups to the cow's teats, substantially as described.

No. 32,380.—STEPHEN R. PARKHURST, of New York, N. Y.—*Improvement in Carding Machines.*—Patent dated May 21, 1861.—The lower feed-roller *b* is formed of strips of metal serrated at their ends, which are made to cross each other and are secured together in such a manner as to form a complete cylinder for the purpose of spreading more evenly the fibrous material. The upper feed-roller is formed with longitudinal ribs, the edges of which may or may not be notched.

Claim.—First, the employment of a series of metallic strips or plates, with serrations on their edges, placed crosswise of each other, substantially as set forth, to form a feed roller or cylinder adapted to carding and similar machines, as specified.

Second, in a carding or similar machine, forming the upper feed roller *c* with a series of ribs in the manner specified, for more effectually detaining lumps or foreign substances as they pass to a carding or toothed cylinder, so as to cause said lumps to be opened or operated as specified.

No. 32,381.—ABRAHAM REESE, of Pittsburg, Pa.—*Improved Bolt and Rivet Machine.*—Patent dated May 21, 1861.—This invention consists in so constructing and arranging the heading tool and dies that the heading tool works entirely within the cavity of the dies in

which the head of the bolt is shaped, not being withdrawn on the backward stroke of the heading lever, so that the iron which is to form the head is not bent or twisted at the neck, and the powerful compression to which it is subjected welds up any crack or imperfection at that point. By means of fingers either working through the dies or entering their face when the dies open, the bolt is forced out either by the retrocession of the dies from the fingers, or by a positive motion of the fingers.

Claim.—First, so constructing and arranging the heading tool and dies of bolt and rivet machines that the heading tool shall, during the entire operation of the machine, remain within the head cavity of the dies, substantially in the manner and for the purpose set forth.

Second, the use of fingers or rods entering suitable recesses in the face of dies, and so operated as to discharge the finished bolts and rivets from the dies, either by a positive or relative motion, substantially as described.

Third, attaching the heading tool to its lever by means of a yoke or similar device, in combination with set screws or wedges, so as to regulate the thickness of the head of the bolt or rivet to be made by the machine without changing the heading tool or varying the stroke of the lever itself, in the manner substantially as described.

No. 32,382.—RENSSELAER REYNOLDS, of Stockport, N. Y.—*Improvement in Let-off Motion for Looms.*—Patent dated May 21, 1861.—This invention consists in a means of communicating to the yarn beam a positive motion which shall be so controlled by the tension of the yarn that the letting-off of the yarn shall be so controlled as to insure the weaving of any number of picks to the inch that may be desired under all conditions, such means being also capable of ready adjustment to vary the number of picks.

Claim.—First, the shaft I, with the friction roll K, and endless screw J, supported in a laterally oscillating stand L, and applied in combination with the yarn beam and with a constantly revolving disk H, on the cam-shaft G, or other suitably arranged shaft, and operating substantially as described.

Second, combining the oscillating whip roll E with the oscillating stand L, by means of a slotted arm R, slotted lever Q, and adjustable stud *f*, substantially as and for the purpose specified.

Third, the arrangement of the spring M, in combination with the laterally oscillating stand L, lever Q, rockshaft and arms F R *a a*, and whip roll E, for the purpose of counteracting the effect of tension of the yarn on the whip roll, substantially as described.

No. 32,383.—J. S. LAMMONS, of New York, N. Y.—*Improved Mode of Roofing with Slate.*—Patent dated May 21, 1861.—This invention, which will be understood from the claim, is designed to provide a roof with elastic joints, which are allowed to yield or give, to compensate for the sagging or settling of the roof, and at the same time remain perfectly water-tight.

Claim.—The laying of the slate slabs B on the planks or boards A, with strips C of India-rubber interposed between them and secured thereto by a solution of India-rubber, in connexion with the cement D, placed over the rubber strips C, and completely filling the interstices between the slate slabs, while the latter are permanently secured in position by the screws C, substantially as described.

No. 32,384.—JOHN W. SMITH, of Iowa Point, Kansas.—*Improved Chair for Disseminating Medicated Vapors.*—Patent dated May 21, 1861.—This invention consists of a rocking-chair, with a bellows attached in such a way that the rocking of the chair propels a large volume of air through a receptacle, where it is medicated or prepared, and from which it is delivered to the occupant of the chair for inhalation.

Claim.—The combination of flexible tubes and of a receptacle in which the air may be impregnated with vapor, as described, with a chain and bellows, for the purpose of producing medicated air or vapor.

No. 32,385.—LOUIS H. SMITH, of Salem, N. J.—*Improvement in Sewing Machines.*—Patent dated May 21, 1861.—This machine is particularly designed for sewing carpets and for other heavy work, where both breadths of the material to be sewed are laid one upon the other on the same side of the needle-bar. Mounted on the end of a projecting frame supported on flanged wheels, which also move upon rails, is a cloth-holder, one being applied in front and the other in the rear of the sewing mechanism. The cloth-holder carriages are adjustable, and may be firmly fixed at any point on the rails by brakes. An intermittent motion is given to the driving wheels by a clutch feed-wheel Q, secured to the shaft of these wheels. Motion is imparted simultaneously to the sewing machine and its carriage by means of a crank, and the machine traverses from one cloth-holder to the other, stitching as it goes. The feed mechanism is thrown out of gear by means of a cam-shaft Y, and the machine runs back to the place of beginning.

Claim.—First, a cloth-holder mounted on wheels, running on the same rails as the sewing-machine carriage, and independent thereof, and provided with a suitable brake to secure it to the rail at any point.

Second, the combination of the friction clutch feed-wheel Q, or other suitable feed-wheel, and traction wheels L L, for imparting motion to a sewing-machine carriage, as explained.

Third, the combination of the cam-shaft Y *y*, rocker *b'*, wheels O O, hooked rod U *u*, and spring *w*, operating to throw the feed mechanism in and out of gear, as explained.

No. 32,386.—HENRY STEINWAY, jr., of New York, N. Y.—*Improvement in Piano-Forte Actions.*—Patent dated May 21, 1861.—This invention consists in a mode of applying the repeating lever in connexion with the jack, and in combination with the hammer-but and key, for the purpose of effecting the escape of the jack with a very small amount of friction, and affording the facility for a very quick and easy repetition of the hammer.

Claim.—The attachment of the repeating lever C to an arm *h*, in front of the jack, the said lever and the jack passing the one through the other, to bring the acting end of said lever in rear of the jack, substantially as described.

No. 32,387.—HENRY STEINWAY, jr., of New York, N. Y.—*Improvement in Piano-Forte Actions.*—Patent dated May 21, 1861.—The repeating lever is pivoted at one end to an arm which is rigidly secured to the front of the jack near the point thereof. This lever passes through a slot formed in the jack, by which means the return of the jack to its notch in the hammer is more readily effected after the hammer has struck the string, and a quick repetition of the blow thereby provided.

Claim.—First, the arrangement of the repeating lever and the jack, in connexion with a jack-bottom D, detached from the key, and in combination with the hammer-but, whereby, as the jack is raised by the key in playing, the said lever is caused to gradually draw it toward the position for escape, substantially as specified.

Second, in combination with the repeating lever, arranged in connexion with the jack and in combination with the hammer, as described, the regulating screw *i*, arranged in the hammer-flange B, substantially as and for the purpose specified.

No. 32,388.—JOHN STILWELL, of Griffin, Ga.—*Improved Churn.*—Patent dated May 21, 1861.—The churn is held in position in the frame by means of a forked brace-bar, the lower ends of which press upon the cover, the upper ends being attached to a bar G, which is secured to a cross-piece provided with journals at each end, which permits the bar G to be raised when the cover is to be removed. This bar is held down by buttons attached to the cross-ties.

Claim.—The combination of the brace-bar M, hinged arm G, buttons O O', with a vertical barrel-churn and rotary dasher-shaft L, the whole being constructed and arranged in the manner and for the purposes set forth.

No. 32,389.—JAMES L. STUART, of New York, N. Y.—*Improvement in Vessels' Fire-Extinguishing Apparatus.*—Patent dated May 21, 1861.—This invention consists of an apparatus to be used in connexion with the means of propulsion for extinguishing fires on shipboard.

Claim.—The combination of the rotary pump H, slides N N, tubular masts R and R', valves X and X', and pipes T and T', provided with hydrants *t*, when combined and operated as shown and for the purposes set forth.

No. 32,390.—BENJAMIN UPTON, of Elyria, O.—*Improvement in Upsetting-Tire.*—Patent dated May 21, 1861.—In this device two clamping-jaws are employed, each being provided with curved grooves and radial key-seats, the inner walls of which latter are inclined, to admit of the insertion of wedges for firmly clamping the tires. One of the clamping-jaws is connected to an adjustable centre-pin by means of an arm from which it radiates; in the end of this arm is a slot, a parallel slot being also formed in the bed-piece upon which the apparatus is secured, by which means the length of the radial arm is easily changed by adjusting the centre of motion to the centre of the tire, and the device readily adapted to the variety of sizes of tires.

Claim.—The adjustable centre-pin *b* passing through slots *l* and *o*, said slots running the exact specific direction, in combination with radial keys or wedges *i* and *i*, constructed as described, for the purpose of centering the tire to be operated upon, and thereby prevent its being distorted or kinked, the whole being constructed in the manner and for the purpose substantially as specified.

No. 32,391.—JOSEPH VOWLES, of New Hudson, Mich.—*Improvement in Cultivators.*—Patent dated May 21, 1861.—To the front part of the frame are attached the forward ends of two inclined braces C, one at each side, the back and lower ends of which are secured to standards provided with teeth or shares. These standards are also braced by lateral braces F, the upper ends of which are secured to the back part of the frame, near its centre. At each side of the frame is attached a standard G, which are bolted to the braces C, and to these standards are attached the lower ends of the handles, which serve also as braces.

Claim.—The arrangement of the inclined braces C C F F, standards D D G G, handles H H, and frame A, as shown and described, whereby the several parts are made to brace and support each other, and a very firm and desirable implement obtained.

No. 32,392.—JACOB S. WHISLER, of Albany, Ill.—*Improvement in Wagon Brakes.*—Patent dated May 21, 1861.—The object of this invention is to enable the team to back the carriage without the rubbers pressing against the wheels, as they are arranged to do, in descending a hill. By means of a lever, to the free end of which is attached a rope within reach of the driver, the hooked part of the check-piece N is drawn forward and operates the crank-shaft so as to prevent the rubber blocks from pressing against the wheels.

Claim.—The combination of check-piece N, having a hook *k*, with the rear part of the tongue and crank-shaft B, as and for the purposes set forth.

No. 32,393.—HARRISON G. WILLIAMS, of Warren, R. I.—*Improvement in Stop Motion for Drawing Frames.*—Patent dated May 21, 1861.—The vibratory trumpet is supported by an arm or carrier, which turns on a joint pin passing through the upper part of a standard, the said arm being furnished with a leg or stop extending downwards from near the centre of its curved portion. A catch lever turns vertically on the above-mentioned joint pin as a fulcrum, and is furnished with an adjustable weight. Pivoted loosely to the side of the trumpet carrier, in the form of a bent lever, is a tripper-catch provided with a notch for the reception of the shorter arm of the catch lever; the object of which construction is to arrest the operations of the drawing frame whenever the sliver or slivers, that may be passing through the trumpet, may either break or be too small, and to stop the drawing frame whenever the slivers may be too large.

Claim.—The combination of the separate trumpet carrier B and the tripping catch F, and its spring G, or their equivalents, with trumpet A and, the catch lever D, or their equivalents, the whole being arranged substantially in manner and to operate as and for the purpose described.

No. 32,394.—WILLIAM C. WYCKOFF, of Brooklyn, N. Y.—*Improved Cork Pull.*—Patent dated May 21, 1861.—This invention consists of a pointed metallic rod provided with a fork or point pivoted near the pointed end, which fork opens on being passed through the cork, so that the latter can be drawn, and with a handle that may be pivoted or hinged to the upper end of the rod. The handle fits within a groove made in the rod, so that, as the forked rod is passed through the cork, the handle may be closed and passed through the cork unobstructively.

Claim.—The use or employment of a pointed rod H I, in combination with the fork F, operating automatically, or operated by the spring J and folding handle A B, when the same shall be arranged and operated in the manner described and for the purpose specified.

No. 32,395.—CHARLES A. YOUNG, of Providence, R. I.—*Improved Machine for Making Upholstery Springs.*—Patent dated May 21, 1861.—Between the grooved feeding rolls which carry the wire and the coiling roll is a stand, the upper part of which serves as a rest or support to the coiling wire as it passes from the former rolls to the latter, and therefore conforms to the curve or the larger coils of the spring, besides having a groove in the curved face for the passage of the wire. The relative positions of the feeding and coiling tubes, and the perpendicular movement of the latter, cause the coils to form above the feeding rolls and against the peculiarly-formed guard 3, at the top of which is an overhanging lip, against which the larger coils are curved and cut off. A weighted lever is caused to rise during the coiling of one spring by a cam, and, falling at the proper time, severs the coil upon the completion of each spring.

Claim.—First, the said grooved rest 1, in combination with the coiling roll R, when the said roll has a perpendicular movement close to and passing the upper feeding roll, for supporting the inside and outside of the coil at the proper time, in the manner substantially as specified.

Second, the guard 3, formed and arranged in relative position with the feeding and coiling, as shown, in combination with the peculiar shear or cutting device, when the latter is operated by the face of the descending weight T, substantially as and for the purpose specified.

No. 32,396.—EDWARD A. BURGESS, of New Haven, Conn., assignor to BLAKE BROTHERS, of the same place.—*Improved Cork Extractor.*—Patent dated May 21, 1861.—In place of a lever head fixed to the upper end of the screw, is an arm or hanger hinged or so jointed to the screw as to be capable of being turned down at a right angle with the axis of the screw, for the purpose of locking the lifting nut to the screw, so that both may be rotated together by the nut, and the corkscrew be screwed into or unscrewed from the cork.

Claim.—Improved cork extractor, as constructed with its hanger or arm D, its lower nut E, its lifting and corkscrews C B, and nick stand A, arranged and combined, or applied relatively to each other, substantially as and so as to operate as described.

No. 32,397.—JAMES F. DRUMMOND, of New York, N. Y., assignor to RAYNOLDS, DEVOE, & PRATT, of the same place.—*Improvement in Paint Cans.*—Patent dated May 21, 1861.—The cover of the can is made of two pieces of tin or other sheet metal, one of which is in the form of a ring, with a rim to fit over a corresponding rim of the body, and the other is circular and of a greater size than the circular opening of the ring. This ring has several clasps upon its edge, by which it is secured to the wired rim of the body, and is put on the

body, without the centre portion, before the bottom of the can, so that melted beeswax may be poured around the corner formed on the inside of the rim. When the can is filled the centre piece is soldered upon the rim, and the whole cover may be removed by unfastening the clasp and breaking the cement.

Claim.—A paint can, having one of the parts of its top sealed upon its inside to the rim of the pail by the cement *c*, and fastened to the pail by clasps *d d*, formed as set forth, and the whole constructed otherwise as shown and described.

No. 32,398.—J. A. DYER, of Newburgh, O., assignor to Himself and H. C. KNOWLTON, of the same place.—*Improvement in Machines for Cutting Chair Backs.*—Patent dated May 21, 1861.—Secured to the top of a frame is a table curved on its upper side, and having an opening in its centre, in which revolves a cylinder provided with knives. At the two sides of the table are secured circular pieces, on which rest and move the guides fastened to the sides of the holder, which is curved to suit the form of the backs of the chairs, by which means the backs can be made of uniform thickness at the edges, or wide at the ends, and narrower at the centre, or any other variation may be made by changing the curvature of the guides.

Claim.—The holder L, the pieces K K, and guides N N′ N″, in combination with the revolving knives H, these several parts being constructed and operated substantially as and for the purpose set forth.

No. 32,399.—E. F. HURLBUT, of Chicago, Ill., assignor to N. S. BOUTON, of the same place.—*Improvement in Patterns for Thimble Skeins.*—Patent dated May 21, 1861.—The thimble skein pattern is made in two parts—the axle pattern and the but or shoulder pattern, separated at the collar or flange of the skein, so that an axle pattern once made is sufficient for any axles of that size, and the but or shoulder pattern alone is required to be made new, the object being to lessen the expense of producing an increased or decreased shoulder to fit wooden axles of different sizes.

Claim.—Constructing the pattern of two parts A B, substantially as shown, so that different but parts B may be used with one and the same axle part A, as and for the purpose set forth.

No. 32,400.—IRA JEWELL, of Wheaton, Ill., assignor to DAVID M. OSBORNE, of Auburn, N. Y.—*Improvement in Harvesters.*—Patent dated May 21, 1861.—The nature and object of this invention are explained by the claim and engraving.

Claim.—In combination with the outside divider or grain end of a platform or grain table, a revolving wing board that is driven mechanically for the purpose of lifting up and carrying or throwing over the cut straw on to the platform, where it can be conveniently reached by an automatic or other rake, substantially as described.

No. 32,401.—STRICKLAND KNEASS, of Philadelphia, Pa., assignor to SAMUEL JAMES CRESWELL, of the same place,—*Improvement in Sewer Inlets.*—Patent dated May 21, 1861.—Upon the top of the arch piece of the sewer inlet is cast a sleeve, into which projects a pipe, the upper part of which latter is flush with the top of the drip plate, and provided with a cover. When the sewer becomes choked by the compressed air within it, the cover will be raised by the pressure, thus ventilating the sewer and preventing one of the causes of overflow.

Claim.—In combination with a sewer inlet, a ventilator that allows an escape of compressed air from the sewer, and admits of being converted into an inlet when the inlet proper is choked up, substantially as described.

No. 32,402.—WALTER HUNT, of New York, N. Y., assignor to JOHN W. and GEORGE G. MARTIN, of Brooklyn, N. Y.—*Improvement in Lamps.*—Patent dated May 21, 1861.—For an understanding of this invention the specification and drawings must be referred to.

Claim.—The combination and arrangement of the filling tubes C and F, valves *d* and I, with the bent tubes B and G, the same being constructed, arranged, and operated substantially in the manner and for the purposes specified.

No. 32,403.—SAMUEL J. SEELY, of Brooklyn, N. Y.—*Improved Construction of Iron Vessels.*—Patent dated May 21, 1861.—The hull and deck of the vessel are designed to be formed of two or more plates (or thicknesses) of corrugated iron, the corrugations on one plate being placed at a right angle to those of the other, all framing and bracing to the hull and decks being dispensed with.

Claim.—The application of two or more series of iron plates to the construction of vessels, corrugated and arranged as described, for the purpose of imparting to the hull of the vessel the requisite degree of strength without the use of frames and braces, when the outer or planting series of such plates is applied with its corrugations running longitudinal with the hull, as set forth.

No. 32,404.—HENRY T. ANTHONY and FRANK PHŒBUS, of New York, N. Y.—*Improvement in Photographic Albums.*—Patent dated May 28, 1861.—This invention is explained by the claim.

Claim.—Forming the leaves for a photographic album by securing the flap, or split portion, at that edge which will be outermost when said leaves are bound, thus causing the free edges of the flap to be presented toward the back of the book, whereby those will be kept down upon the photograph without the need of paste or cement, as described.

No. 32,405.—JULIUS DE BARY, of Offenbach, Dutchy of Hessen, Germany.—*Improvement in Cigar Machines.*—Patented in England November 1, 1859.—Patent dated May 28, 1861.—The tobacco intended for the cores of the cigars is laid upon an endless band, which, in connexion with another similar band placed at an angle with the former conducts the tobacco between two plates, after passing which it is cut by a descending knife. Behind the rear roller of the upper band is another roller, upon which is a band having at its end a weighted metal square which takes hold of the after part of the tobacco and assists in moving it forward.

The part E consists of two metal plates hinged together so as to form a jaw which is acted upon by a spring to keep it open and allow the tobacco to enter the same on being cut. Passing around a series of rollers are two endless bands Y X, the latter touching a cylinder B, to which an up and down motion is imparted, and which forces the tobacco to roll itself up. In order to prevent the cores from becoming loose before the outer leaf is placed upon it, temporary coverings or wrappings of tobacco are brought to the core and made to surround it, the same being removed when the outside leaf is put on.

Claim.—First, the conducting and compressing of the tobacco intended for the interiors or cores of the cigars by means of the bands C and D, in combination with the metal square Y, the whole being constructed and operated in the manner described.

Second, the arrangement and construction of the jaw E, on the end of the arm *a*, and the manner of operating the same, for the purpose of receiving the portions of tobacco intended for a core of the cigar, which is cut off by the descent of the knife G, and delivering the same in the rolling machine.

Third, the use and arrangement of the roller B operating the endless band X, in the manner and for the purpose substantially as described.

Fourth, the employment of wrapping papers in the manufacture of the cores for cigars, in the manner and for the purpose described.

Fifth, the described arrangement of the machinery for the manufacture of cigars, the whole being substantially constructed and operating in the manner described and specified.

No. 32,406.—S. B. BLACK, of Harrisburg, Pa.—*Improvement in Machines for Sowing Guano.*—Patent dated May 28, 1861.—The shaft, which passes longitudinally through the box which holds the guano, is provided with arms secured at an inclination to the shaft corresponding to the sides of angular blocks placed in the bottom of the box. The shaft is also provided with straight pins. The object of the arrangement being to stir the guano and sweep the bottom of the box so as to cause a ready discharge of the contents.

Claim.—The arrangement of the shaft B, arms *a a*, pins *d d*, and the irregular bottom of the hopper, when the same are used and constructed as and for the purpose set forth.

No. 32,407.—R. BRINKERHOFF, of Mansfield, Ohio.—*Improvement in Approach Opening Gates.*—Patent dated May 28, 1861.—This invention consists in the arrangement of double toggle joints connected to levers, and to hinges by means of rods, in such a manner that as the wheel of a carriage depresses a lever the foot of each gate is thrown forward, and by the aid of bevelled edges and their own weight the gates open. The depression of the opposite lever causes the gates to close.

Claim.—The application of the toggle joint *a a a a.* and the hinges *e e*, as and for the purposes set forth.

No. 32,408.—JOHN M. BROOKE, of U. S. Navy.—*Improved Detaching Hook for Nautical Use.*—Patent dated May 28, 1861.—The eye of the hook is so formed as to permit the partial or entire reversal of the hook by turning it in the ring or pendant which supports it, thus detaching any suspended weight without slacking the tackle or pendant. To guard against accidental reversal of the hook, a clamp is used which turns on a pin at the end of the extended arm, and rests between the tackle ring and the ring by which the weight is suspended.

Claim.—The extension of the eye of the hook along the back of the hook through an arc of about 90 deg., the curve of the upper part of the eye being nearly concentric with the inner curve of the lower part or bend of the hook, also the guard described and used therewith.

No. 32,409.—J. B. CALDWELL, of Chambersburg, Pa.—*Improvement in Water-Wheels.*—Patent dated May 28, 1861.—The wheel is formed of two circular curved plates or heads, the buckets being attached to the outer surface of the upper head, and so arranged that any one may be easily detached and a new one inserted. The wheel is fitted with a box, the sides of which are formed of a series of tangential chutes.

Claim.—The particular arrangement shown and described of the two heads *c c'*, with each other, and with the buckets *c*, box D, and shaft C, when the said heads and buckets are constructed in the peculiar form and united together in the peculiar manner set forth.

No. 32,410.—JAMES H. CALL, of Springfield, Mass.—*Improvement in Calipers.*—Patent dated May 28, 1861.—The object of this device is to measure the diameter of a cylindrical hole, and the invention consists in joining the legs without crossing them and extending them beyond the joint, thus forming two arms, to the end of one of which is secured, by means of a screw and spring, a quadrant, passing through a slot in the other arm, by which means an accurate measurement is easily obtained.

Claim.—The construction of inside calipers with a micrometer screw and spring, substantially in the manner as set forth.

No. 32,411.—JOHN D. COCHRAN, of Milford, N. H.—*Improved Washing Machine.*—Patent dated May 28, 1861.—Within the box is supported a revolving frame composed of end pieces, top and bottom pieces, and holding two rubber rolls, between which the clothes are passed to be washed. The frame is held in place by means of a stop piece in the bottom of the box, which stop piece, on being pressed down by a rod, releases the frame, and allows it to turn over, when the articles are deposited from the rolls upon a stand or platform in a condition to be hung out without further wringing.

Claim.—The combination of the frame C, with its elastic rolls F F', with stop *b*, rod *a*, and washing box A, the parts being constructed and arranged to operate in relation to each other as and for the purposes set forth.

No. 32,412.—AARON COLTON, of Attica, N. Y.—*Improvement in Corn-Planters.*—Patent dated May 28, 1861.—The frame is suspended from the axle by two chains which are attached to crank arms on each end of a rock bar lying parallel with the axle. To the rock bar is attached a hand-lever, by means of which the driver is enabled to raise and lower the frame at will. At each end of the frame are upright rods, which serve as guides to keep the frame in proper position relatively to the axle.

Claim.—The combination and arrangement of the frame C D carrying the seeding devices with the axle of the truck, by means of the rock bar *h h*, chains *g*, and guides H, substantially in the manner and for the purposes shown and described.

No. 32,413.—T. SCOTT CONE and H. S. POTTER, of Oneida, Ill.—*Improvement in Cultivators.*—Patent dated May 28, 1861.—This invention consists in the combination of pivoted beams and adjustable shovel stocks with a pivoted carriage frame, so arranged and constructed as to admit of a ready adjustment of the shovels, and a means of guiding them between the rows of young or of more matured crops.

Claim.—The pivoted frame C C', lever D, pole B', beams E E and F F, pivoted to a rod *a*, as described, in combination with adjustable pivoted brackets J J J, and pivoted shovel stocks G G G' G', all arranged as shown and described.

No. 32,414.—GEORGE COOK, of Bristol Station, Ill.—*Improvement in Portable Capstans.*—Patent dated May 28, 1861.—This invention consists in arranging a swivel joint in an otherwise rigid connexion between the means for elevating the front of the machine and the means for elevating the rear of the same, so that when the machine is fully elevated and the wheels are fully in position for supporting it the said swivel joint is brought directly in line with the king bolt, so that the front axle and its attachments may be swiveled freely without detaching or otherwise disturbing the connexions. With the main spool or drum and arm is combined a second drum fixed to a separate main lever or arm, and a means of connecting or disconnecting the arm on the main shaft with the main lever, so that the main lever and the main shaft can be connected by simply raising the former by hand, and can readily be disconnected to allow of either reeling off the main rope from the main shaft, or of operating a secondary rope, by winding it upon the secondary drum independently of the main rope.

Claim.—First, so arranging a swivel joint R in the otherwise rigid connexion *q* S T T between the means F G H I for elevating the rear of the machine and the means M N O P for elevating the front of the machine that when the machine is fully elevated upon its wheel the said joint R is over or in line with the king bolt K, all substantially as and for the purpose set forth.

Second, the combination and arrangement of the eye *d*, hook *j*, and rope J, or their equivalents, with the main spool or drum B and arm B', and with the small drum D and main lever D', so as to operate in the manner set forth.

No. 32,415.—LEWIS COOPER, of Philadelphia, Pa.—*Improvement in Sewing Machines.*—Patent dated May 28, 1861.—The needle-frame is caused to work up and down by means of eccentrics on the shaft. As the needles and needle-frame ascend, the cloth to be sewed is caused to be drawn forward by the feed apparatus, motion being communicated to the cloth by passing it between rollers, one of which is provided with a cog-wheel D, and moved by means of a ratchet hook *a* suspended on an eccentric, so that it will lean against the side of the

cog-wheel. On the other end of the roller is a grooved guide-wheel, in which a pin on the frame runs, the groove being placed at an angle with the axis, and causing the needle-frame to slide to and fro laterally.

Claim.—Giving to the frame which carries the sewing mechanism a reciprocating movement in a direction at right angles to that of the feed motion at the time the pressure feet are lifted from the cloth by means of the pawl *d*, ratchet D, and cam C′, substantially as and for the purpose specified.

No. 32,416.—FREDERICK DECKER, of Ostrander, O.—*Improvement in Clover Harvesters.*—Patent dated May 28, 1861.—The end bearings of the cutting and brushing cylinder are set in plates *d*, secured to the sides of the box by bolts passing through vertical slots in the plates. Behind these plates *d* are vertical plates *k*, slotted in a direction with their length, to the lower ends of which are secured axles which carry the wheels. By this means the machine may be so adjusted as to gather from short or tall clover, and also that growing on the side of a hill.

Claim.—The arrangement of the slotted adjustable plates *d d* with the cylinder A, finger *e*, separately adjustable plates *k k*, and axles *m m*, as and for the purposes shown and described.

No. 32,417.—JAMES DOTY, jr., and ASA H. DOTY, of West Falls, N. Y.—*Improved Washing Machine.*—Patent dated May 28, 1861.—This invention is explained by the claim and engraving.

Claim.—The rocking or flexible frame, in combination with the sectional convex corrugated rubbers B B and scolloped concave corrugated blocks C C, when all shall be arranged substantially as and for the purpose specified.

No. 32,418.—WILLIAM M. FERRY, jr., of Ferrysburg, Mich.—*Improvement in Saw-Mills.*—Patent dated May 28, 1861.—This improvement is designed to be used in connexion with a saw-mill patented to the said Ferry July 21, 1857, and consists in an arrangement of devices for automatically reversing the motion of the carriage, for regulating from the head of the saw-mill the thickness of the slabs or planks cut from the log, and for confining the rack bars to the head of the block, and the head block to the carriage.

Claim.—First, the slotted box I and roller H, for the purpose of actuating the mechanism used in reversing the motion of saw-mill carriages, substantially as set forth.

Second, the combination of the slotted box I and roller H with the tripping devices E L, stop-spring J, lever *e*, rock-shaft *d*, and connecting-rod *b*, substantially in the manner and for the purpose described.

Third, the combination of the hand-lever O, rock-shaft M, jointed connecting-rod N, gauge-slide *g*, and hinged adjustable oblique bar *f*, substantially in the manner and for the purpose described.

Fourth, effecting a combination between the set rack-bars Q and head-block and also the carriage G by means of the tenon *k* and flanged plates *l l*, in the manner and for the purpose described.

No. 32,419.—JESSE GILMAN, of South Merrimack, N. H.—*Improved Feeding and Gigging-back Movement in Sawing Machines.*—Patent dated May 28, 1861.—This invention relates to an improvement upon a sawing-machine patented to the said Gilman on March 25, 1856, and it consists in a combination of devices by means of which an automatic reciprocating movement is given to the bolt-carriage, a slow feed movement, and a comparatively quick gigging-back movement.

Claim.—The combination of the double peripheried pulley C and pulleys S T with each other and with the movable shafts R R′, lever N, cams *h h′*, carriage F, and rods G H, all in the manner and for the purpose shown and described.

No. 32,420.—WILLIAM H. HENDERSON, of Franklin, Ind.—*Improvement in Beading Rain Gutters.*—Patent dated May 28, 1861.—Secured to a base or frame is a hollow cylinder with a tapering bore and having a slot cut lengthwise of the same. Corresponding with the bore of the cylinder is a rod, provided also with a longitudinal slot, and having a mortise at one end and a crank handle, by which means the tin, as it is turned by the rod, is formed with the proper bead. The mortise at the end of the rod is designed to form the opening in the bead at that end of the rod round.

Claim.—First, reducing the rod on one side of the groove in it, for forming a round head, as specified.

Second, the employment of the mortise *d*, in the rod, as and for the purpose specified.

Third, the tapering form of the rod, whereby I am enabled to readily remove the bead, and whereby one end is formed to fit in the adjoining end of the next section of gutter, substantially as set forth.

Fourth, the tapering form of the bore to correspond with the rod, as and for the purpose specified.

No. 32,421.—ALBERT V. HILL, of Carrollton, N. Y.—*Improvement in Fire-Arms.*—Patent dated May 28, 1861.—This invention consists in a method of fastening the breech of breech-loading fire-arms with a lever key for opening and securely closing the breech.

Claim.—The described notched key, with its lever V, and eccentric disc L, constructed as described, for the purpose of opening and securely closing the breech of a breech-loading fire-arm, in the manner set forth.

No. 32,422.—J. J. HIRSCHBUHL, of Louisville, Ky.—*Improvement in Vent Stoppers of Ordnance.*—Patent dated May 28, 1861.—Hinged to a standard secured to the barrel of a cannon is a padded lever in such a position that, on turning the lever down, the pad closes the touch-hole perfectly tight. The lever is provided with a spring, which catches in a nose, and keeps the pad firmly pressed upon the touch-hole.

Claim.—The arrangement of the pivoted spring lever *c*, and nose D, with the hinged lever B, and clamp E, the whole constructed and operated in the manner and for the purposes shown and described.

No. 32,423.—SEBRE HOWARD, of Elyria, O.—*Improvement in Running Gear of Railroad Cars.*—Patent dated May 28, 1861.—The axle trees are divided, and their inner ends turn in adjustable bearings that rest and move in elongated journal boxes secured to the central beam of the car frame. The inner bearing of each forward axle is connected by curved rods or braces to the inner bearing of the opposite rear axle so as to bring each axle in line with the radius of the curve. The vertical sides of the outer journal boxes have a convex shape, and the inner corresponding surfaces of the legs of the pedestals are concave, to admit of the journal boxes turning freely on their vertical axes.

Claim.—Giving a convex shape to the vertical sides of the journal boxes C C, and a concave shape to the inner surfaces of the respective legs of the pedestals B B, for the purpose of enabling the said journal boxes to be freely turned upon their vertical axes within the said retaining pedestals, in the manner and for the purpose set forth.

Also, supporting the journal boxes that receive the inner ends of the divided axles between the curved open edges of the way-plates J R that are bolted to the central beam G of the car frame; but this I only claim when the boxes C C, which receive the outer ends of the said divided axles, are supported in such a manner that they are allowed to turn upon their vertical axes substantially in the manner set forth.

No. 32,424.—BENJAMIN JAMES, of Worcester, Mass.—*Improved Machine for Drying Wool, &c.*—Patent dated May 28, 1861.—This invention consists in the employment of elastic pressure rollers with a feeding device, and also in the use of endless aprons arranged in relation with the picker and chute so as to receive the stock in a manner most favorable to its drying; in an arrangement of the rollers pertaining to the endless aprons so as to prevent the escape of heated air from the lower part of the drying chamber; and in an arrangement of the driving, mechanism whereby certain portions of the working parts of the machine may be stopped when necessary, while other portions are allowed to operate. The specification and drawings must be referred to for a description of the devices claimed.

Claim.—First, the employment or use, for the purpose specified, of the two endless aprons L M, arranged to work or move in contact substantially as shown, and used in connexion with the endless feeding apron B, fluted roller D, concave *f*, and picker E, or an equivalent feeding device, to convey the stock between the aprons.

Second, the adjustable roller *u'*, when used in connexion with the stationary roller *t'*, and endless aprons L M, and placed in such relation with the drying chamber H, to operate as and for the purpose set forth.

Third, the elastic pressure rollers C C', when used in connexion with the feed apron B, fluted roller D, picker E, and chute G, for the purpose of properly presenting the stock to the endless aprons.

Fourth, the arrangement, as described, of the pulleys *j j'*, with the belts *i o* O, and the gearing *d e d' e'*, of the rollers C C' D, substantially as shown, to admit, when desired, of the stopping of the aprons L M, and feeding mechanism, for the purpose specified.

No. 32,425.—RICHARD F. JOYNES, of Bristol, R. I.—*Improved Steering Apparatus.*—Patent dated May 28, 1861.—The apparatus for operating the rudder is placed in a hollow casting as a cap having a broad base secured to the deck. On the head of the rudder is secured a cog-wheel, and on two bolts which secure the cap casting to the deck are two smaller cog-wheels or pinions which gear into the central cog-wheel, and serve to steady the head of the rudder. In the under surface of the central cog-wheel and the upper surface of the counter-plate which is let into the deck of the vessel are circular grooves, forming cavities for the reception of balls which serve as friction rollers, and support the weight of the rudder. To the rudder head is coupled a hollow cylinder provided with two spiral slots in opposite sides thereof; in these slots move projecting arms of a nut travelling on a stationary screw, by turning which latter the action of the rudder is governed.

Claim.—The arrangement and combination of the mechanism for supporting, guiding, and working the rudder, substantially as and for the purposes specified.

No. 32,426.—PATRICK KERR, of New Bethlehem, Pa.—*Improvement in Furnaces for Smelting Iron Ore.*—Patent dated May 28, 1861.—This invention consists in giving to the smelting furnace such modifications of form that each variety of bituminous coal may have

a form of construction to suit its properties, and so that all descriptions of raw bituminous coal may be employed for smelting iron ore.

Claim.—The use of a bosh and hearth, constructed as described and set forth, in which the width or proportion is reduced or enlarged as the quantity of bitumen in the coal employed as fuel is increased or diminished.

No. 32,427.—AMBROSE KOHLER, of Boston, Mass.—*Improved Heating Apparatus.*—Patent dated May 28, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination of a series of truncated cones united at their larger and smaller bases alternately, as described, and surrounded by a series of similar cones of such diameter as to leave an annular zigzag space between them, with inlet and outlet pipes so arranged as to admit of cold air within the interior of the former series of cones by impinging and reverberating it against the highly heated surfaces thereof, and to discharge it when thus heated, substantially as described.

Second, in combination with the double series of cones and inlet and outlet pipes, arranged to operate as set forth, I claim the outer cylinder, provided with openings at their bottom for the admission of cold air, as specified.

No. 32,428.—JACOB MAAG, of Milwaukie, Wis.—*Improved Wind-Wheel.*—Patent dated May 28, 1861.—This invention does not admit of a brief description.

Claim.—First, the eccentric *o*, in combination with the fan or storm-board *m*, and the toothed and bevelled wheels, as set forth, for giving motion to the wings, as described.

Second, The lever bar *g*, as it is arranged in relation to the governor and to the means or parts operated by the storm-board or fan, and to the wings, as set forth.

No. 32,429.—CHARLES B. MARTIN, of Fond du Lac, Wis.—*Improvement in Grain Separators.*—Patent dated May 28, 1861.—To the lower part of the outer end of the shoe is attached transversely a rod *a*, fitted in a grooved roller D. To the back end of the shoe is also attached a rod, with its ends inclined upward, which ends rest upon rollers. Through the shoe passes a rod, extending through slots in the sides of the case. By this means the shoe will adjust itself to its work whenever the case is out of a horizontal position.

Claim.—The combination with the shoe C of the rods F *a b c*, slot *c*, and rollers D E E, the whole being constructed and arranged as shown and described, and operating in the manner and for the purposes explained.

No. 32,430.—DANIEL MINTHORN, of Beverly, Mass.—*Improvement in Valves.*—Patent dated May 28, 1861.—The body of the valve is made of hemispherical shape, and to its base and curved portion is attached, respectively, a projection or wing, arranged at right angles to each other, for the purpose of preventing the valve from rolling and securing a uniform and steady motion in seating.

Claim.—The valve constructed with two guides *b*, and arranged at right angles to each other, and operating so as to insure the accurate play and seating of the valve, as set forth.

No. 32,431.—JOSIAH MUMFORD and J. W. WILSON, of Clarksburg, O.—*Improvement in Cultivators.*—Patent dated May 28, 1861.—The nature and object of this invention are explained by the claim.

Claim.—So hanging the pairs of ploughs that run on each side of the rows of plants to the frame and to each other as that they may have both a vertical and horizontal adjustment, as well as a rocking movement, on their shaft H, but when so rocked, one plough of the pair shall not be thrown into or out of the ground more than its fellow, as described and represented.

No. 32,432.—J. W. OGLE, of Concord, Ill.—*Improved Window Shade.*—Patent dated May 28, 1861.—The frame of the curtain is divided into sections, one of which is secured to the window frame, and the others are hinged to it above and below, so as to be capable of being turned up or down, or adjusted to any intermediate position.

Claim.—The construction of a window curtain or shade attached to a frame divided into sections, hinged together as described, for the purpose of regulating the admission of light and air.

No. 32,433.—S. N. PARK and JOHN A. STAATS, of Somerville, N. J.—*Improvement in Machine for Cooling and Drying Flour.*—Patent dated May 28, 1861.—To the sides of the runner or upper mill-stone are attached one or more hollow tubes, arranged in such a manner that the revolution of the runner shall act as a blower to keep up a continuous supply of air, for the purpose of cooling the flour and drying it while being ground.

Claim.—The use and application of the tubular fans *a a*, in combination with or attached to the runner of flouring mills, substantially as and for the purposes set forth.

No. 32,434.—JOHN QUIGLEY, of Winona, Minn.—*Improvement in Animal Traps.*—Patent dated May 28, 1861.—This invention consists in the arrangement of two platforms attached

directly to one and the same axle rod, the upper platform having a crank arm and trigger rod connected to it, by which it is kept suspended, so that as the animal passes to the bait-box he treads upon the front edge of the upper platform, which causes the release of the trigger and retaining rod, and allows the lower platform to fall and deposit the animal within the box beneath. The working parts of the trap are concealed from view by an inclined partition, which serves as a shelf for the bait.

Claim.—The arrangement of the platforms B B′, axial pivot J, common to both platforms, crank arm D, trigger or retaining rod E, stop latch G, adjusting screw K′, box I, inclined bait supporting division board C, and pit 2, the whole being constructed and used together in the manner and for the purpose set forth.

No. 32,435.—N. C. SANFORD, of Meriden, Conn.—*Improvement in Skates.*—Patent dated May 28, 1861.—This invention consists of a flat runner stamped out of suitable sheet metal, the proper width and shape, and secured to a wooden stock by buttons and screws; the buttons being riveted to the runner previously to attaching it to the stock, so that when attached the upper edge of the runner will abut against the bottom of the stock and furnish a solid bearing for the same from heel to toe.

Claim.—The solid iron and wooden stock skate, constructed and put together as herein described

No. 32,436.—ORAMEL B. SCOFIELD, of East Stoughton, Mass.—*Improvement in Adjustable Weather Strips.*—Patent dated May 28, 1861.—The strip consists of a clamp bar, which is made with a recess for the reception of an auxiliary bar, to the rear side of which, and projecting beyond its lower edge, is fastened an elastic flap. Between the upper edges of the bar and the recess are arranged a number of springs, against which the bar is bent, the ends of the bar being secured to the clamp. The object of the device being to adjust it to the curved worn surface of the threshold.

Claim.—The combination and arrangement of the auxiliary bar B and its springs C′ C, or their equivalents, with the flap D, and the clamp bar A, to be affixed to the door, and to operate therewith, substantially as specified.

No. 32,437.—S. L. SHOTWELL, of Ottawa, Ill., and S. R. HICKS, of North Hemstead, N. Y.—*Improvement in Steam Ploughs.*—Patent dated May 28, 1861.—This invention does not admit of a brief description.

Claim.—First, the arrangement of the additional steam cylinder and piston in connexion with the propelling engineer engines and the oblique series of pulleys *h*, carrying independent or disconnected ploughs, when the whole is constructed and operated substantially in the manner and for the purposes set forth.

Second, the arrangement of the series of short links *t t*, in combination with the series of independent ploughs or gangs, and the oblique bar E″, mounted on wheels F, for the purpose of giving the ploughs a free motion in passing obstacles and yet preventing said ploughs from falling sidewise, substantially as specified.

Third, the above described peculiar arrangement of crank-wheels J J, loose pinions L L, sliding clutches M M, crank-shaft K, in combination with the driving-wheels D D, substantially as set forth.

Fourth, the arrangement of the plough frames *o* and levers *g*, applied to the beams D′, to operate as and for the purposes set forth.

No. 32,438.—JOHN STEVENS and LUTHER H. BUELL, of New York, N. Y.—*Improved Washing Machine.*—Patent dated May 28, 1861.—This invention will be understood by reference to the engraving and claim.

Claim.—The employment of the stationary corrugated India-rubber apron H, stretched between end pieces I I, when arranged for joint operation with a rubbing roller F, the whole constructed as described, for the purpose set forth.

No. 32,439.—PHILIP TEETS, of New York, N. Y.—*Improved Milk Pan.*—Patent dated May 28, 1861.—This invention consists in forming various portions of the can, as the breast, the bowl, and the cover, submitting them to the action of stamping dies, and joining the parts together, so as to leave the inner and outer surfaces as smooth as possible, and free from projecting joints, for the purpose of more easily cleaning the cans and giving them greater strength.

Claim.—As a new and improved article of manufacture, the milk can herein described and represented.

No. 32,440.—JOSEPH TOMLINSON, of Putman, Iowa.—*Improvement in Suspension Bridges.*—Patent dated May 28, 1861.—The nature of this invention consists in the adaptation and combination of a rigid truss to the ordinary wire cables of suspension bridges, in such a manner that the changes resulting from variations of temperature shall have no tendency to produce any undue strain between the different parts of the whole structure, the increased or reduced camber of the truss, caused by variations of temperature acting upon it, always corresponding to the rise or fall in the cables from contraction or expansion.

Claim.—The within described method of constructing suspension bridges, the same consisting in combining rigid trusses having cords of material of different expansion and contraction under the same degree of temperature with the wire suspension cables, substantially as herein set forth.

No. 32,441.—OTIS TUFTS, of Boston, Mass.—*Improvement in Elevators.*—Patent dated May 28, 1861.—This invention consists in the employment of a series of ropes, each of which is independently attached to the hoisting-car, and also, after passing up over the upper roller to the hoisting-drum on which they are wound, either of which ropes being sufficient to sustain the load put upon the machine. In combination with this series of ropes is arranged a series of levers and balances, so that the weight or strain is equalized on each rope, and the machine made self-adjusting, which is effected by attaching the end next the car of each rope to a lever-beam, the short arm of which is fixed in a standard on top of the car, while the longer arm is attached to a connecting rod which extends down and takes hold of a spiral spring coiled within the tubular cylinder, to the lower end of which is fixed a sheave. The machine adjusts itself to any inequality in the lengths of the ropes, and should a rope break the strain is at once equally distributed on the remaining ropes, the scales indicating the strain on each rope.

Claim.—First, constructing an elevator or hoisting apparatus, with a series of two or more hoisting ropes or chains having independent attachments, and winding simultaneously upon the hoisting-drum, for greater safety, substantially as described.

Second, equalizing the strain upon the series of ropes or chains of my improved elevator or hoisting machine, by automatic adjustment, substantially as described.

Third, in combination with the hoisting apparatus, the spring balances for indicating the strain upon the ropes or chains employed, substantially as described.

No. 32,442.—WILLIAM S. WEIR, jr., of Monmouth, Ill.—*Improvement in Cultivators.*—Patent dated May 28, 1861.—The frame to which the ploughs are attached is placed above and connected, by means of eyes and staples, to the end of the seat-frame. Between the rear sides of the plough-frame and the longitudinal pieces of the seat-frame are placed movable wedges, for the purpose of adjusting the rear end of the seat-frame. To the rear of the plough-frame is fastened a spring-catch, which engages in teeth in a catch-piece secured to the front of the seat-post, and serves to retain the ploughs in the adjusted position. By removing the wedges the frames will come together and the ploughs will be caused to run deep in the ground. The inner ploughs are controlled by means of a lever, so as to adjust them to cultivate crooked or irregular rows of plants.

Claim.—First, the combination of a spring-catch P and catch-plate Q with the plough-frame I and seat-frame, substantially as and for the purposes set forth.

Second, the combination with the seat-frame and plough-frame of catch-plate Q, spring-catch P, and adjusting blocks *d d*, constructed and arranged to operate in relation to each other as and for the purposes set forth.

Third, pivoting or hinging the plough-frame I to the front of the seat-frame and in front of the seat-frame and in front of the axle of the main supporting-wheels, in combination with providing said frame I with two sets of ploughs J J K K, arranged to operate in relation to each other as and for the purposes set forth.

No. 32,443.—CHARLES P. WING, of Fayetteville, N. Y.—*Improvement in Harvesters.*—Patent dated May 28, 1861.—To the dividing board on the outer end of the platform is attached an upright, the upper end of which forms bearings for a shaft R, which has a hub on its inner end to which radial arms are attached, and at the upper part of an upright on the main frame is a similar shaft S, provided also with a hub and radial arms. The two shafts are in line with each other, and the ends of the arms are connected by extension-rods formed of two parts, each part having an eye at each end, through which its fellow-part passes loosely, by which means the proper action of the reel will not be affected by the irregular movement of the platform, when passing over uneven ground.

Claim.—Constructing the reel with extension rods or beaters U, and two separate shafts R S, attached respectively to the main frame and platform, to operate as and for the purpose set forth.

No. 32,444.—JOHN M. DE BOLLE, of Philadelphia, Pa., assignor to Himself, ANDREW J. HUSTED, and EDWIN HAND, of the same place.—*Improvement in Valves for Hose-Pipes.*—Patent dated May 28, 1861.—In the centre of the hose-pipe is pivoted a valve attached by a centre-pin at one side to a handle, by which the valve is opened and closed. Upon the pipe is arranged a spring which acts upon the handle, to close the valve when the flow of water is to be stopped. The handle is provided with lugs, which, in connexion with a guard, serve to regulate the degree of motion of the handle, the object being to prevent a waste of water, when the hose is left unattended, or from carelessness.

Claim.—The combination of the valve C, handle D, guard F, lugs *g g*, and spring H, arranged and operating as and for the purpose set forth.

No. 32,445.—JOHN A. BRADSHAW, of Lowell, Mass., assignor to Himself and WM. H. BROWN, sen., of Pelham, N. H.—*Improvement in Machine for Winding Thread.*—Patent dated May 28, 1861.—Upon a shaft H is fixed a plate surface-gear, which consists of a circular plate having corrugations or teeth, arranged in concentric circles on its surface. This gear, by means of an intermediate pinion, gives motion to a similar gear on the end of a traversing screw, which motion may be made faster or slower, according as the intermediate pinion is set further from or nearer to the centre of the plate surface-gear I, for the purpose of adjusting them to winding coarse or fine threads. By means of a friction-gear and clamp the surface-gear and pinion are kept in close contact, and the friction may be increased or diminished by means of a set screw.

Claim.—First, the combination of the two plate surface-gears I J with the pinion K, hung and adjusted as described, for the purpose and substantially as set forth.

Second, the combination of the friction-gear *d*, clamp *c*, set screw *f*, with the worm-shaft H, for the purpose and substantially as described.

No. 32,446.—FREDERICK LANDON, of Brockport, N. Y., assignor to BYRON E. HUNTLEY, JOHN M. BOWMAN, and CHARLES and LAFAYETTE SILLIMAN, of the same place.—*Improvement in Harvesters.*—Patent dated May 28, 1861.—This invention relates to an improvement upon a machine patented to the said Landon on November 13, 1860, and it consists in combining a hand-lever with the traction-lever described in said patent, and arranging it in relation to the driver's seat, so that the driver may readily raise the cutting apparatus to any suitable height to avoid obstructions in the path. With the traction-lever and hand-lever is combined a seat-frame, so constructed and arranged as to correspond in its backward and forward movement with the movement of the rearward end of the traction-lever, and at the same time preserve a nearly horizontal position.

Claim.—First, the combination of a hand-lever with the traction-lever D, for the purpose set forth and substantially as described.

Second, the combination of a seat-frame with the traction-lever D of a harvesting machine, for the purposes set forth and substantially as described.

Third, the combination of the hand-lever C′ with the traction-lever D and the seat-frame *b b b*, for the purposes set forth and substantially as described.

No. 32,447.—ELISHA MATTESON, of Brooklyn, N. Y., assignor to L. D. TOWSLEY, of New York, N. Y.—*Improved Apparatus for Locomotion.*—Patent dated May 28, 1861.—This invention consists of a series of sections hinged together, which form the platform, and on the under side of which are secured cogs which form in connexion with each a continuous rack. These sections are supported upon rollers and upon a cog-wheel which meshes into a cog-wheel upon the sections of the platform, as in the act of walking motion is imparted to the driving-wheels. Attached to standards are levers for operating brakes to control the movements of the apparatus.

Claim.—First, the use or employment of the platform D, in combination with the driving-wheels L L, the brakes M M, and the levers Q Q, arranged and operating in the manner and for the purpose or purposes set forth and specified.

Second, the brakes M M and levers Q Q, suspended and connected by their cross-bars in the manner set forth and for the purpose or purposes specified.

No. 32,448.—S. P. MCCROSKEY, of Monroe, Iowa, assignor to Himself and WILLIAM D. NICHOLS, of Davenport, Iowa.—*Improved Preparation to Render Maize Suitable for Grinding.*—Patent dated May 28, 1861.—This invention consists in mixing with Indian corn, as it is ground, a compound of bicarbonate of soda, cream of tartar, tartaric acid, and whiting, for the purpose of neutralizing the oil of the corn, and absorbing the undecomposed moisture, and thereby rendering the corn more easy to be ground and the flour more dry.

Claim.—The process of treating Indian corn, preparatory to grinding, with the compound, substantially as described, without limiting myself to the exact proportion of elements specified.

No. 32,449.—N. R. MERCHANT, of Guilford, N. Y., assignor to Himself and A. P. MERCHANT, of the same place.—*Improved Boring Machine.*—Patent dated May 28, 1861.—Secured by bolts to the horizontal slotted plate of the frame B are two stands, the bolts passing through the slots and admitting of a lateral adjustment of the stands. At the upper end of each stand is a tubular projection or bearing, each of which receives a tube, which holds the auger or bit, and on the end of each tube is a pinion, which gears into a spur wheel toothed on its inner side. The axis of the wheel passes through the slot of the upright plate, and by means of a nut may be adjusted to any height. Holes may be bored at a greater or less distance apart by loosening the bolts, raising or lowering the axis, and moving the stands near to or further from each other.

Claim.—The combination of the adjustable spur wheel D and adjustable stands C C, with auger bearings *f f* attached, said parts being arranged or applied to a slotted frame B, to operate as and for the purpose set forth.

No. 32,450.—JAMES H. MERRILL, of Baltimore, Md., assignor to the MERRILL PATENT FIRE-ARMS MANUFACTURING COMPANY, of the same place.—*Improvement in Fire-Arms.*—

Patent dated May 28, 1861.—This invention consists in making the forward part of the plug cup-shaped or hollow, splitting the sides thereof, and filling the cup with a copper plug for the purpose related in the claim.

Claim.—Combining with the piston of a breech-loading gun a copper plug and split rim, for the purpose of causing the discharge through the more ready expansion of the copper to pack the joint between the piston and the bore of the gun, substantially as described.

No. 32,451.—JAMES H. MERRILL, of Baltimore, Md., assignor to the MERRILL PATENT FIRE-ARMS MANUFACTURING COMPANY, of the same place.—*Improvement in Fire-Arms.*—Patent dated May 28, 1861.—The object of this invention is to perform a triple service, viz: to provide a chamber for containing a lubricating compound, and also for the entrance for the gas as the charge is exploded, and from which it escapes as the plug is drawn out; and, thirdly, the edges of the groove become scrapers for clearing out any matter that may adhere to the bore.

Claim.—In combination with a piston having a copper plug in it and a split rim, the making a groove in the plug or plunger, for the purpose and in the manner substantially as described.

No. 32,452.—GEORGE M. PHELPS, of Williamsburg, N. Y., assignor to the AMERICAN TELEGRAPH COMPANY.—*Improvement in Telegraphs.*—Patent dated May 28, 1861.—This invention consists in combining a piston, or its equivalent, and a valve controlled by an electro or other magnet with a platen, a corrector, and a constantly-moving type wheel, in such a manner that the motions of the corrector and platen shall, to a certain extent, be controlled or governed by the piston, whose power is derived from the action of compressed air admitted by the valve.

Claim.—Governing the angular position of a type wheel and controlling the motions of a platen by force derived from compressed air, or other fluid, by means of the combination of a valve actuated by an electro-magnet with a piston, a platen, and a corrector, combined with each other, and operating in combination substantially in the manner specified.

No. 32,453.—GEORGE B. PHILLIPS, of Newark, N. J., assignor to J. STILES LITTELL, of the same place.—*Improvement in Wrenches.*—Patent dated May 28, 1861.—Hinged to a slide, which moves freely on the main bar, is a vibrating jaw provided with teeth. The jaw is released from and applied to the pipes by means of a spiral spring in the countersink of the jaw, operated by a thumb piece. In the rear of the slide is a second slide, connected by means of a screw and nut, and provided with a wedge and spring for aiding in the adjustment of the forward slide.

Claim.—As a new article of manufacture the wrench pipe described in the specification.

No. 32,454.—JOHN A. SCOTT, of Rochester, N. Y., assignor to Himself and S. P. ROBBINS, of the same place.—*Improvement in Grain Separators.*—Patent dated May 28, 1861.—This invention consists in the arrangement of two flues in front of the feed spout, with two sets of screens, the one above the other, and having a cockle screen and two shoot boards arranged between them.

Claim.—The arrangement of the flues A and B, the two sets of screens C and D, the one above the other, the shoot-board E', cockle screen C', shoot-board E, hopper H, and fan F, when constructed and operating as and for the purpose shown and described.

No. 32,455.—PHILANDER SHAW, of Boston Mass., assignor to Himself and E. TOWNSEND, of the same place.—*Improvement in Hot-air Engines.*—Patent dated May 28, 1861.—This invention consists in providing a partition or head between the fire-box and the cylinder, the communication between the two being commanded by a valve operated by an eccentric on the shaft of the engine, for the purpose of allowing the heated air to be worked expansively within the cylinder, independently of the air within the fire-box. In order to avoid the difficulties arising from the great radiation from the surface of the furnace and engine and heat in the apartment, the furnace and the cylinder are surrounded with a tight casing, which encloses a chamber between it and the furnace, the chamber being divided by a vertical partition into two chambers so arranged that the air for the combustion of the fuel, and for operating the engine, shall first cool the exterior of the vertical partition, next the exterior of the cylinder, and, finally, the exterior of the furnace before entering the fire-pot.

Claim.—First, a hot-air engine, in which the cylinder is placed directly over the fire-box, and forms a continuation of the same, separating the cylinder from the fire-box by a partition or head, and admitting the air to the cylinder through a valve in it operated by the engine, for the purpose specified.

Second, the chamber O, surrounding the furnace and more or less of the cylinder, and placed between the furnace and the air pump, and communicating with the two in combination with the partition P, arranged and operating in the manner substantially as set forth.

No. 32,456.—JAMES W. STOAKES, of Milan, O. assignor to Himself and J. N. BOYLAN, of the same place.—*Improvement in Sewing Machines.*—Patent dated May 28, 1861.—This invention consists of an arrangement of devices for forming the loop, so as to secure the looping of the thread at every stroke of the needle, and prevent the slipping of the stitch.

Claim.—The slot V of the looper, the slot S of the cam, and the stationary arm R, when arranged and operating conjointly in the manner and for the purpose set forth.

No. 32,457.—L. H. ALLEN, of Amherst, Mass.—*Improvement in Forming Wire-Cloth Dish Covers.*—Patent dated June 4, 1861.—The die is divided into two equal sections from the apex to the base, these two parts being hinged at the apex, and having a helical or other spring transverse to the line of their base to incline them to separate, and a latch upon the loose to secure them together, while around the periphery of the base fingers of non-adhesive material are made to diverge against and below the zone by springs within or behind them. A sheet of wire-cloth of due proportions is pierced at its centre by a fixed metal rod ascending from the apex, upon which rod a handle may be then secured. By the usual manipulations the cloth is pressed to the die, and, the band being passed down to its place, the latch is detached, the sections of the die are pressed outward by their transverse spring, the protruding edges of the wire-cloth are trimmed off, and the edge is soldered to the band.

Claim.—First, the expanding die block A B, in combination with its handle rod C, and a suitable spring latch *b*, as and for the purposes set forth.

Second, the spring fingers described, composed of a piece *q* of stone, and a metallic shell *h*, when said fingers are arranged so as to operate as set forth.

Third, the handle D, with its latch *e* and spring plate *f*, in combination with the notched rod C, all arranged and combined as and for the purposes set forth.

No. 32,458.—WILLIAM C. BAKER, of New York, N. Y.—*Improvement in Steam-Heating Apparatus.*—Patent dated June 4, 1861.—In warming houses by steam forced downward through pipe, in coils, the water of condensation sometimes freezes in the lower coils; and to prevent this the present arrangement is made, wherein the steam first traverses a limited portion of pipe at the base, and warms the external ascending current of air.

Claim.—Raising the temperature of the current of air which enters below the manicoil or heating surface above the freezing point before the said current of air reaches the lower portion of the said coil or heating surface, substantially as and for the purposes described.

No. 32,459.—ZADOC M. BEALL, of Russellville, Ky.—*Improvement in Ploughs.*—Patent dated June 4, 1861.—A share of spear form in front and concave beneath is followed by a more superficial cutter to sever the roots turned up; each of these parts has a curved shank passing through the beam, and secured by a nut on the upper side, and each has a curved brace behind it secured in like manner to the beam. The cutter may be removed, and the share fixed in its place for ordinary uses.

Claim.—The arrangement of the cutter C, shank D, brace E, ploughshare S, beam A, and handles B B, the whole being constructed and combined, and operating in the manner and for the purposes shown and explained.

No. 32,460.—H. T. BETTS, of Springfield, Mass.—*Improvement in Carriage Steps.*—Patent dated June 4, 1861.—One arm of the bent lever which is pivoted to the carriage is attached, by means of rods, to the carriage door; the other arm of the lever is provided at its extremity with a stud which fits into a slot on arm E, attached to the end of the shaft, placed in bearings under the body of the carriage, said shaft having the step attached to it by arms. The step, when the door is closed, is turned under the body of the carriage, but on opening the door the lever G acts, by means of its attachments, to rotate the shaft, and throw the step down and out from the carriage.

Claim.—The bent lever G and slotted arm E, or their mechanical equivalents, when operating substantially in the manner and for the purpose set forth.

No. 32,461.—LOUIS BONARD, of New York, N. Y.—*Improvement in Circular Looms for Weaving Hats.*—Patent dated June 4, 1861.—The inventor says: The invention consists, first, in certain devices for carrying, operating, and guiding the warp-holders; second, in devices for laying the woof in circular form; third, in devices for forming the crown of the hat. Its construction does not admit of a brief description.

Claim.—First, the rotary rings T and P, constructed with corresponding slots to guide the keys as set forth, and operating in connexion with stationary weft-carriers.

Second, the twin wheels C and D, and notched ring F, or their equivalents, for elevating the keys, as set forth.

Third, the slide-way U applied to the wagon U, and operating in combination with pins R and a notched elevating wheel of any suitable form, substantially as and for the purpose set forth.

Fourth, the laying mechanism A B C D E F G H, constructed and operating substantially as and for the purposes set forth.

Fifth, the form K and bell K, combined and operating substantially as and for the purposes set forth.

Sixth, the India-rubber rings applied to the keys Q to afford an elastic attachment for the warp, as set forth.

No. 32,462.—MOSES BUCKLIN, of Grafton, N. H.—*Improvement in Harrows.*—Patent dated June 4, 1861.—This harrow is an acute triangle, the teeth being all placed upon the two di-

verging beams, though not in line therewith, but perpendicular to the base. They each appear, from a side view, like the fore part of a skate, the front having a flange turned on one side, with a single screw hole for attachment to the beam, and the rear being bifurcated and forming semi-mouldboards, between which is received a stud descending from the beam to brace the tooth in their rear. A tailboard is hinged beneath, a short distance from the end, and a slotted bar at the end of each beam is so adjusted by a pin as to determine the depth to which the harrow shall operate in the rear.

Claim.—The arrangement of the diverging side bars B B, provided with double-winged teeth, in connexion with the tailboard E and bars *d*, the whole being constructed, arranged, and used as and for the purpose specified.

No. 32,463.—B. BULLARD, of Litchfield, Mich.—*Improvement in Bechives.*—Patent dated June 4, 1861.—The pivots fit into the notches in the slats, so that by removing the cap the comb-frames can be removed and any desired number inserted, so that more or less space can be left between them. An astragal face to a comb-frame is well known, but though possessing many advantages does not insure regularity in the direction in which the combs are built, it has been found that this can be effected by means of the V-shaped channel.

Claim.—The combination and arrangement of the comb-frames E, suspended by a single pivot on each side, with the slats *f f* and removable caps *g g*, provided with the notches or series of notches *c c*, substantially in the manner and for the purposes shown and described.

Also, the acute or V-shaped channel, in combination with an astragal face, or its equivalent, substantially as and for the purposes set forth.

No. 32,464.—L. S. BUNNELL, of Troy, N. Y.—*Improvement in Pipe Butts.*—Patent dated June 4, 1861.—This invention consists in having the but at the discharge end of the hose formed of two parts, connected by a joint, and secured together when closed by means of a catch and fastening, whereby the outer end or part of the but to which the pipe is attached may at any time be turned around out of the way of the stream, and the pipe detached with the greatest facility, and without being exposed to the water.

Claim.—Forming the butt A of two parts *b c*, connected by a hinge or joint *d*, and provided with a catch or fastening B, substantially as and for the purpose set forth.

No. 32,465.—M. C. BURLEIGH, of Somersworth, N. H.—*Improvement in Moulding Stove Griddles.*—Patent dated June 4, 1861.—By means of this invention a lip for the end of the handle to be inserted under, to enable the griddle to be moved, is cast in the recess without the use of core boxes, wires, or chills, as is ordinarily necessary.

Claim.—The employment or use with the pattern A of the movable tongue B, substantially as described, fitted in the pattern, and in such relation with its recesses *a* as to admit of a lip being cast with the griddle, as and for the purpose set forth.

No. 32,466.—SAMUEL CAMERON, of Pittsburg, Pa.—*Improved Spike Machine.*—Patent dated June 4, 1861.—This invention consists in the employment of a rack, arranged along one side of the machine, on which the rod from which the spikes are made is thrown as it leaves the common rolls, said rack being combined with shears, which sever the rod in the middle, so that the two halves can be fed to the machine from both ends thereof simultaneously, while in a proper heated state for working into spikes.

Claim.—The rack *c e e e' e'* on which the hot bar is thrown as it comes from the reducing rolls, combined and arranged relatively with the shears D D', substantially as set forth.

No. 32,467.—A. H. CLARK, of Fond du Lac, Wis.—*Improvement in Shingle Machines.*—Patent dated June 4, 1861.—The nature of this invention consists, firstly, in applying springs to the backs of the outer movable dogs, which are operated by a concentric curved bar to gripe and release the bolts, said springs being so arranged on said dogs that they will yield and properly gripe the bolts, which slightly vary in length, or whose ends are not exactly straight, as well as bolts, which have their ends cut off square. Secondly, in forming a groove in the periphery of the horizontal bolt table, and in using stationary guides which fit into this groove and keep the table in a steady horizontal position.

Claim.—First, the spring G, with its friction roller *h* and pin *i*, in combination with the sliding dog *b* and curved holding bar E, substantially as and for the purposes described.

Second, the stationary guides *c c* working in the groove *d* in table B, substantially as described, for keeping the table in a steady position.

Third, combining with bed J, pivoted as described, the slotted wheel or cam K, rod L, square shaft K', having cogs *t t* on its end, which are struck by the pins *v* on the table B, for tilting said bed, as and for the purposes described.

No. 32,468.—M. CAIN and W. STELFOX, of Austin, Texas.—*Improvement in Cultivators.*—Patent dated June 4, 1861.—The parts of the plough are so constructed that it can be made to plough a row of any given width from three to five feet; it can be made to plough on each side of a row of corn or cotton; also, the diamond ploughs can be made to run on each side of a row so as to hill it up, the horse walking on the top of the row.

Claim.—The arrangement of diamond ploughs *f f*, the crescent coulter *k*, sweep *g*, wing hinges *m m*, wings *b b*, slides *c* and *d*, beam *a*, and handles *h*, as described, for the purposes set forth.

No. 32,469.—H. M. COLLIER, of Binghamton, N. Y.—*Improved Washing Machine.*—Patent dated June 4, 1861.—The claim and engraving explain the nature of this invention.

Claim.—Constructing the rotating cylinder A of a washing machine of a series of half rolls *a* deeply knurled and placed at short intervals, and with their smooth surfaces outside, substantially as described, so that the cylinder when in motion offers the least resistance to the water, and that the meshes or openings with their sharp edges cut the water and force the same into the cylinder and against the clothes, facilitating the washing, and insuring a supply and a constant change of the water in the cylinder.

No. 32,470.—F. E. COOK, of Guilford, Ohio.—*Improvement in Machines for Hulling and Cleaning Clover Seed.*—Patent dated June 4, 1861.—The clover, after being threshed, is carried along the screen D, and the seed passes through the meshes, falling upon the endless apron from which it is carried, and precipitated on to the hulling cylinder. The seed and chaff then fall upon the lower screen, and the chaff is thrown out by the blast from the fan.

Claim.—The combination of the threshing cylinder B, hulling cylinder K, shaking screens D and M, conveying apron G and fan P Q, arranged and operating in the manner and for the purposes shown and described.

No. 32,471.—ROBERT CORNELIUS, of Philadelphia, Pa.—*Improved Method of Lighting Gas by Electricity.*—Patent dated June 4, 1861.—The advantage of the employment of a metallic handle is that the electricity is always developed by the electrophorus by merely grasping the handles without touching the metallic plate with the hand.

Claim.—First, the employment of the electrophorus in connexion with the metallic wire attached to the gas burner for lighting the gas, substantially as described.

Second, the attaching the metallic handle to the hard rubber plate, the handle terminating in a small metallic button C, substantially as described.

No. 32,472.—GEORGE DARE, of Auburn, N. Y.—*Improved Mode of Hanging Window Sash.*—Patent dated June 4, 1861.—The sash is provided with a dovetailed groove on the edge next the box, and is made small enough to fit in readily, but by inserting the strip to which the weight is attached the sash is held in place. The joint in the strip in the groove allows its insertion when the sash is in place.

Claim.—The employment of the jointed or hinged strip D, secured to and used in connexion with the sash, substantially as and for the purpose set forth.

No. 32,473.—A. M. GEORGE, of Nashau, N. H., and J. W. CARTER, of Brooklyn, N. Y.—*Improved Carpet Cleaner.*—Patent dated June 4, 1861.—The carpet is placed upon the bars F and under the beaters E, and passes between the tubes H over the brush and between the rollers. It is then effectually beaten, the dust is blown off by the blast of air from the tubes, while the underside of the carpet is swept by the brush. The bars F F yield to a certain extent and thus render the action of the beaters more perfect.

Claim.—First, the beaters E, in connexion with the rollers D D, the yielding bars F, blast tubes H H, with or without the brush G, arranged for joint operation substantially as and for the purpose set forth.

Second, the particular construction of the beaters E, to wit: their bars *j* being made to pass each other at their ends to insure the action of said bars on the whole surface of the carpet as described.

Third, the connecting of the yielding bars F by cords *m m*, one or more, and placing said bars F relatively with the beaters E, as and for the purpose specified.

No. 32,474.—E. GORE, of Belvidere, Ill.—*Improved Washing Machine.*—Patent dated June 4, 1861.—The oscillating rubbers are set each in a mortise on the follower opposite each other, and hang down a little below the other rubbers. They are hung in the mortises by means of a pin passing through their ends. The effect of these rubbers when the follower is slightly rotated backwards and forwards is to turn the clothes on the bed of the tub, and render all parts subject to the action of the rubbers.

Claim.—The oscillating rubbers, substantially and for the purposes set forth.

No 32,475.—G. B. GRIFFIN, Madison, Wis.—*Improved Clothes Wringer.*—Patent dated June 4, 1861.—By means of the yielding legs the machine can be attached to the fluted sides of a tub, such as is used in "French's Patent Washing Machine." The spring allowing the legs to adapt themselves to the taper of the grooves.

Claim.—First, the employment in wringing machines of the spool-shaped guide rollers E E, arranged to operate in combination with the soft surface pressure rollers B C, substantially in the manner and for the purpose set forth.

Second, the employment on clothes wringing machines of the yielding leg or legs *a*, adapted to yield in a plane parallel to the axes of the rollers, substantially in the manner and for the purpose set forth.

No. 32,476.—M. GROUT and C. LAWTON, of Oak Grove, Wis.—*Improvement in Seeding Machines.*—Patent dated June 4, 1861.—The stocks have each attached to one end a cultivator tooth, and are hinged at the other end to the cross-pieces, thus giving them an independent movement and enabling the machine to be used on uneven ground. A transverse bar connected to the lever L passes under the stocks and enables all of the cultivators to be raised from the ground at once. In the bottom of the box there are two seed slides moving in opposite directions and operated by means of lever L, so that the seed openings can be closed at will. The gauge arms are for the purpose of attaching screws which regulate the distance the levers can be moved in a lateral direction, so as to regulate the size of the seed openings. In sowing around stumps and other obstacles the use of independent seed slides enables either half of the machine to be used at pleasure. The stirrups are placed under the seed apertures and facilitate the scattering of the seed dropping thereon from the hopper.

Claim.—The combination of the hopper A, stocks G, teeth H I J, bar K, rod *e*, lever L, independent seed slides N N′, gauge arms *i*, and stirrups M, constructed, arranged, and operating substantially as and for the purposes set forth.

No. 32,477.—J. H. HAVEN, of Troy, Ohio.—*Improvement in Frames of Buggy Tops.*—Patent dated June 4, 1861.—The nature of this invention consists in providing a cheap, light, and convenient covering, to be attached to any kind of vehicle, costing less by half than the ordinary buggy top, and weighing much less, which can readily be removed from one vehicle to another, and when not in use can be shut up and hung in a small space.

Claim.—The combination of standard B, with arms I and H, a longitudinal braced arm with wings K and J, the whole so constructed and arranged as and for the purposes set forth.

No. 32,478.—A. G. HOLCOMB, of New York, N. Y.—*Improved Electro-Magnet.*—Patent dated June 4, 1861.—The claim and engraving will explain the nature of this invention.

Claim.—First, combining with the positive or attractive force of the electro-magnet that of a permanent steel magnet, placed at or near the end of the core or cores of the electro-magnet, opposite to that of the armature.

Second, the use of a permanent steel magnet connected with the rear end of the core or cores of the electro-magnet, and carried round in a position parallel, or nearly so, with the periphery of the helix or helices.

Third, the combination with the armature C of the adjustable slide D, and set screw *d*, in the manner and for the purposes set forth.

Fourth, the adjusting screws F F′, or either of them, when used in the described combination with the stretched wire spring E, of the armature, for the purpose explained.

No. 32,479.—B. F. JOYNES, of Bristol, R. I.—*Improvement in Cultivators.*—Patent dated June 4, 1861.—The cover, which is made slightly convex, so as to shed water, slides in grooves in the sides of the box, and is prevented by projecting lips on its ends, which strike against a middle partition, from being more than half removed. By turning the nuts the machine can be raised on the post to which the wheels are mounted, said post passing through bearing plates secured to the sides of the machine. The openings *a a* allow the machine to pass over growing plants without disturbing them.

Claim.—The construction and arrangement of the enclosing box A and cover B, in the manner and for the purpose set forth.

Also, the arrangement and combination of the wheels G G, posts H H, bearing plates I I, and nuts L L, substantially in the manner and for the purpose specified.

Also, the arrangement of the openings *a a*, side plates *b b*, and knives M M M or N N N, substantially as and for the purpose described.

Also, the arrangement of the double sets of knives M M M and N N N, in combination with the reversible handle C, so that the machine may cultivate in both directions, substantially as specified.

No. 32,480.—J. H. JUNKINS, of Upper Sandusky, Ohio.—*Improvement in Trusses of Bridges.*—Patent dated June 4, 1861.—The nature of this invention consists in that peculiar construction of bridges whereby any portion of braces, suspension rods, sections of arches, &c., can be removed and repaired without affecting the remaining portions of the structure; also, whereby a continuous course of braces is secured entirely around the structure, thereby entirely preventing the arches from lateral inclination, and by which the position desired can readily be given them.

Claim.—First, the construction of angular arches in bridges, formed by double sections of straight timbers laterally arranged, when the same shall be combined with combination angle blocks *m*, substantially as and for the purposes described.

Second, in combination with the arched truss, as described, the arrangement of rod *e*, adjustable brace and straining rods *a a*, straining rods *b b*, extension arms *r r*, suspension stirrups *c c c*, braces H H, iron plate 12 Vs D D, bolt and nut 9, thereby forming a continuous adjustable brace around the whole structure, and firmly binding together all the parts, the whole being arranged substantially as and for the purposes set forth

Third, the arrangement of braces H H, iron plate 12, and bolt with nut 9, when used in combination with Vs D D and stirrup C, for the purpose of distributing the weight by pressure from the centre of floor on chords and arches B B and C C, substantially as described.

No. 32,481.—J. H. LANDELL, of Newark, N. J.—*Improvement in Tent Fixtures.*—Patent dated June 4, 1861.—The lower ring is attached to the tent, and is connected to the upper ring, which fits over the conical ferule by three chains. The ferule fits over the ring to which the legs of the tripod is attached, and is provided with slots to keep the legs in place.

Claim.—First, the employment of a conical ferrule at the top of the tent-pole, in combination with the rings *e* and *i* and chains *f*, the whole being constructed, arranged, and operated in the manner and for the purpose set forth.

Second, the employment of the ferule *m*, at the bottom of the tent-pole, in combination with tripod *u r*, the whole being constructed, arranged, and operated in the manner and for the purpose set forth.

No. 32,482.—C. M. LANE, of Cincinnati, O.—*Improvement in Hinges.*—Patent dated June 4, 1861.—This invention is an improvement in loose-joint butt hinges. It consists in forming on the leaves of the hinge two or more pins, and in corresponding rocket bearings for said pins, either by forming the pins on one leaf and the rocket bearings on the other leaf of the hinge, or by forming a pin and a socket on one leaf, and a corresponding socket and pin on the other leaf, thereby combining the advantages of a tight-joint hinge with a loose-joint hinge.

Claim.—A hinge, constructed as described and shown, combining the strength of the fast-joint with the advantages of the loose-joint hinges.

No. 32,483.—HORACE MAXSON, of Hopkinton, N. Y.—*Improvement in Rope Walks.*—Patent dated June 4, 1861.—The nature of this invention consists in the combination of a carriage sliding on permanent ways, and carrying or supporting two or more "tops," with a series of partitions or guides for the strands, whereby a number of lines or ropes may be formed in one walk by one operation, thereby increasing the number of lines laid up in a given space, and saving a large proportion of the labor previously required.

Claim.—The employment of the carriage D, containing or supporting two or more tops, or their equivalents, with the ways or rails C C and the partitions E, arranged and operating together substantially in the manner and so as to obtain the advantages set forth.

No. 32,484.—OLIVER REYNOLDS, of Webster, N. Y.—*Improvement in Beehives.*—Patent dated June 4, 1861.—The slides are constructed of pasteboard, and, in conjunction with the non-conducting space of air between the plates of glass, conduce to keep the hive warm in winter, and also, by excluding light, favor the continuance of the bees in a dormant state. The screen on the winter portal is constructed of wire gauze, and, though allowing the free circulation of air through its meshes, will not permit the passage of the bees. By this device opportunity is given the bees on warm winter days to enjoy light and air without the danger of going so far from the hive as to be unable to return. The tube *m* permits the ingress of the bees, but does not readily afford egress. Under the alighting shelf is hung by pins or screws a strip of wood, and the space affords a convenient place for the moths to deposit their eggs, which can be crushed by pressing the strip against the shelf.

Claim.—Constructing sections consisting each of a frame of suitable dimensions for a full-sized comb, when provided with suspended tubes *d d*, arranged transversely of the comb structure in such a manner that the bees may fill the frame with comb wrought around said tubes, and at the same time they will be left to form passage-ways for the working bees, substantially as set forth.

Also, the double glass partitions G, with the slides I, for surrounding the warm and maintaining greater uniformity of temperature in winter, substantially as described.

Also, the winter portal K, or attachment, consisting of a box with screen L and tubular orifice *m*, constructed and applied substantially as and for the purpose set forth.

Also, the hanging moth-trap *r*, constructed substantially in the manner and for the purpose set forth.

No. 32,485.—W. W. ROBINSON, of Ripon, Wis.—*Improvement in Pumps*—Patent dated June 4, 1861.—This invention consists in screwing to the hollow piston in a suitable manner a rack, the teeth of which engage with a sector-rack, which latter is keyed to a rock-shaft, and receives an alternate rocking motion from a crank-shaft through the medium of a pitman and a vibrating arm, so that a rotary motion given to the crank-shaft will communicate an uniform alternate vertical motion to the hollow piston.

Claim.—The combination with the hollow piston-rod D and the pump otherwise constructed, as described, of the rack H, sector J, rock-shaft J', pitman L, crank M, and crank-shaft N, all arranged as and for the purposes set forth.

No. 32,486.—DECATUR PITTMAN, of Fort Madison, Iowa.—*Improvement in Animal Traps.*—Patent dated June 4, 1861.—This invention consists in combining with a board having a hole through it a lever, which is arranged across the hole in the board, so that when

the animal enters a hole the lever will be pushed upwards and detach a trigger, which will let fly a spiked bar that is acted upon by a strong spring, and spike the animal securely to the trap.

Claim.—The animal trap described, consisting of a board A, having a hole B through it, and the spiked bar C, spring D, adjusting screw E, trigger I, and lever J, all combined and arranged as set forth.

No. 32,487.—J. C. PLUMER, of Portland, Me.—*Improvement in Boots and Shoes.*—Patent dated June 4, 1861.—The object of this invention is to construct boots and shoes which will conform to the long ligamentous structure of the foot, and thus prevent many disadvantages arising from the use of shoes constructed in the usual manner, such as the formation of bunions and the breaking down of the arch of the instep. The insole is made convex so as to conform to the concave shape of the sole of the foot, and thus affords support to the tranverse arch. The peculiar shape of the shank affords support to the foot both longitudinally and transversely. By having the heel of the shoe extend forward efficient support is given the heel, and the tendency of the foot to move forward in the shoe counteracted. By constructing the quarters of unequal length the external projection of the ankle joint is relieved from the pressure of the seam without interfering with the fit of the shoe.

Claim.—First, the combination of a sole that is flat or convex exteriorly with an insole that is convex at its upper surface, substantially as described.

Second, a shank that is convex at its upper surface, substantially as described.

Third, the combination of an elongated heel with the sole, substantially as described.

Fourth, the combination of the front piece of the upper leather with quarters of unequal length, substantially as described.

No. 32,488.—VAN BUREN RYERSON, of New York, N. Y.—*Improvement in Modes of Condensing Mercury in Amalgamating Vessels.*—Patent dated June 4, 1861.—The substance containing the gold and silver is introduced into the cylindrical vessel provided with a hemispherical or dished bottom, in a finely divided state, together with mercury and water. Superheated steam is introduced by the coiled pipe into the bottom of the vessel escaping into the mass by a series of small holes. The vapor of the mercury is condensed against the bottom of the cover of the vessel, and falls in a finely divided state through the mass.

Claim.—The process of separating gold or silver from foreign substances by condensing the vapor of mercury in a vessel containing the substances from which the gold or silver are to be separated, substantially as described, so that the mercury shall be diffused and subdivided, and in that condition caused to pass through the charge the better to take up the particles of metal by amalgamation, as described.

Also, the application of superheated steam to the charge of mercury and of gold or silver in pulverized or granular foreign substances, substantially as described, for the purpose of vaporizing the charge of mercury so that it may be diffused and subdivided, and to agitate the entire charge, as described, when this is applied in combination with the process of condensation, substantially as described, that the mercury may be condensed in minute particles, and in that condition pass through the charge the better to take up the particles of gold or silver by amalgamation, as described.

No. 32,489.—L. M. STEARNS, of Cardiff, N. Y.—*Improvement in Ploughs.*—Patent dated June 4, 1861.—The object of this invention is to attach a whiffletree to a plough clevis in such a manner that the whiffletree will not get under the horses feet in turning the plough, it being kept up by the pin *g;* and also, that the beam will have a much better purchase on the plough in turning it, and keep the beam steady in heavy ploughing; at the same time the improved clevis will admit of all the adjustments desirable, and it will be strong and substantial.

Claim.—Combining with clevis A, constructed and applied to the plough beam, as described, the forked coupling iron, consisting of the arms *h h*, pivoted to the clevis by pin *f* and arms *i i*, embracing the whiffletree, and pivoted thereto by the pin *k* and the check pin *g*, all arranged and operating as described.

No. 32,490.—W. H. TOWERS, of New York, N. Y.—*Improved Bootjack.*—Patent dated June 4, 1861.—This invention consists in simply enclosing within the boot or shoe heel, during its formation, a metallic socket, after the manner of the well-known boot heel socket for spurs, with an undetachable sliding bar therein, in such a manner as to enable the said sliding bar to be withdrawn from the rear of the boot heel the required distance to form a sufficient lodgment for the toe portion of the opposite foot of the wearer, to readily enable him to remove the boot from the foot with ease.

Claim.—The undetachable sliding bar D, constructed and operating within the socket, in combination with the boot or shoe heel, substantially as described.

No. 32,491.—ISAAC TYSON, jr., of Baltimore, Md.—*Improved Article of Paint.*—Patent dated June 4, 1861.—"Black dirt" is the miner's name for a dark brown powder, composed of the oxides of manganese and iron, silica, and alumina, found about certain copper mines in Maryland.

Claim.—The new article of manufacture, being a composition suitable for painting, to wit, a composition consisting of "black dirt" and oil, so mixed as to form a paint, which may be used either with or without the addition of other materials to make it dry or vary its color.

No. 32,492.—G. B. WIGGIN and J. H. HOARD, of Providence, R. I.—*Improved Steam Trap.*—Patent dated June 4, 1861.—When the pipe B becomes heated by the passage of the steam it expands more than the rod D which is attached to it, and therefore raises the end of the rod from the lever E, and allows the pressure to close the valve. The cooling and contraction of the pipe opens the valve to allow the escape of water. This trap will not be injured by any variation of expansion.

Claim.—The combination with the outer case or chamber A of a brass or other metal pipe B, coupling C, steel or other metal rod D, lever E, valve H, valve spindle guides I and L, inlet and outlet O and P, constructed and operating as described for the purpose set forth.

No. 32,493.—W. S. WILMOT, of New York, N. Y.—*Improvement in Rakes for Harvesters.*—Patent dated June 4, 1861.—The frame C is composed of two cross bars, having at their outer ends small horizontal rollers, the peripheries of which are grooved so as to fit the bevelled edges, and thus enable it to move along the bar B which extends longitudinally under the platform. The sliding bar D is pivoted to the frame, and bears against the edges of grooved rollers which are secured to bars placed at each end of and at right angles to a bar E pivoted beneath the platform. By giving a vibratory movement to the bar E the frame C is moved back and forth on the bar B, and when the frame reaches the outer end of the platform the rake teeth are thrown into a vertical position so as to sweep the grain from the platform.

Claim.—The combination of the pivoted sliding bar D, and vibratory bar E, with frame C, and rake G, substantially in the manner and for the purposes shown and described.

No. 32,494.—JESSE BARTOO, assignor to Himself and ZINA A. HEMSTRETH, of East Aurora, N. Y.—*Improvement in Excavators.*—Patent dated June 4, 1861.—By this arrangement the scraper, when raised to a certain height, is made to throw the driving wheel out of gear with the windlass which raises the scraper, so that its further ascent is stopped and possibility of damage to the windlass avoided. The draught bar is attached to the front end of the frame so as to allow of its being moved laterally, and is operated by a lever in reach of the driver. By this arrangement each scraper can be filled separately without causing side draught, and the line of draught may then be placed centrally for transportation.

Claim.—So arranging the changing lever M, catch Q, and spring R, with reference to the radial frame I, including gear wheels J J', and scraper G, that, as the scraper is raised, it will move the catch in a manner to release its hold upon the lever and allow the heavy end of the lever to drop, and thereby ungear with the driving wheel, for the purposes and substantially as set forth.

Also, the arrangement of the draught bar V, in such manner that the line of draught may be changed to correspond with the central line of resistance, in combination with two scrapers arranged side by side, for the purposes and substantially as described.

No. 32,495.—G. A. DE BRAME, assignor to Himself and BENJAMIN GURNEY, of New York, N. Y.—*Improvement in Skates.*—Patent dated June 4, 1861.—The button fastening is made with a small neck; it fits into a slot on a plate which is attached to the heel of the boot, said slot terminating in an enlarged hole of sufficient size to admit the head of the button fastening, but, when inserted, the spring forces the neck of the fastening into the slot, and thus prevents it from coming out of the plate.

Claim.—The button fastening *g*, or its equivalent, when secured to a sliding plate *f*, which works in a groove in the skate plate G, and is operated by a pin *h*, substantially as and for the purposes set forth.

No. 32,496.—WM. M. FULLER, assignor to Himself and GEO. W. CHANDLER, of Chicago, Ill.—*Improvement in Sewing-Machines.*—Patent dated June 4, 1861.—As the needle passes up the pawl shifts the needle slide and thus feeds the cloth for another stitch, and as the needle bar ascends still further it is shifted back to its nominal position by the inclined plane. The looper is slotted for the reception of the thread, the guide so preventing it from slipping out.

Claim.—First, the needle slide *b*, the pawl *d*, and the inclined plane *c*, substantially as described, arranged for feeding the cloth for the stitches.

Second, the slotted looper *o*, and its guide hook *w*, combined for the purpose specified.

Third, a needle with a horizontal shifting motion, as described, combined with a slotted looper, as described, for the purpose of making a series of stitches.

No. 32,497.—ISAAC GOODSPEED, of Norwich, Conn., assignor to A. A. GOODSPEED, of Putman, Conn., and E. S. STEBBINS, of Worcester, Mass.—*Improvement in Cork Machines.*—Patent dated June 4, 1861.—The object of this invention is to obtain a means for adjusting the degree of taper of the knives of a machine for cutting conical cork stoppers. Conical patterns of different degrees of taper can be placed upon the shaft so as to give the desired inclination to the cutters. The office of the adjusting screws is to press the cutters down so as to fit the patterns placed on the shaft

Claim.—First, the changeable conical patterns *b* and *c*, arranged in the machine substantially as described.

Second, the adjustable screws *r*, or their equivalent, for the purposes set forth.

No. 32,498.—T. S. HUDSON, assignor to Himself and THOMAS LEIGHTON, of East Cambridge, Mass.—*Improvement in Barometer Inkstands.*—Patent dated June 4, 1861.—The inkstand, when turned in such a position as to bring the plane of its bottom vertical, its mouth being uppermost, can be conveniently filled by means of the semi-dome-shaped tunnel.

Claim.—The improved barometric inkstand, as made with the semi-dome or tunnel C, or the same and a cover D, arranged and combined with the ink fountain and its neck, and to operate therewith substantially as specified.

No. 32,499.—E. S. SCRIPTURE, assignor to Himself and EDWARD WHITE, of New York, N. Y.—*Improvement in Axle Collars.*—Patent dated June 4, 1861.—This invention consists in a novel mode of constructing the shoulder or holding flange with its accompanying sectional slide packers, whereby greater strength is obtained from the use of a given amount of metal, cheap and durable packing can be applied, and also lubricating matters can be conveniently applied and retained, the same being allowed to circulate freely through said holding flange or shoulder, instead of having to pass over it in order to reach the moon-plate or other coupling, or other back fastening employed; the same being protected by the use of slide packers, accompanied with gasket, moon-plate, or other back fastenings, provided with protecting flanges, by which arrangement dust and grit is effectually excluded from the wearing parts.

Claim.—First, the metallic cellular collar, made in the manner shown, and for the purpose or purposes set forth and described.

Second, the sectional slide packers made in the manner and for the purpose described.

Third, the metallic cellular collar, the sectional slide packer, with its flange, in combination with the protecting collar, flange and gasket, when the same shall be used substantially in the manner as shown, and for the purpose or purposes set forth and described.

No. 32,500.—RUSSELL SMITH, assignor to S. S. WHEELER, of Danbury, Conn.—*Improvement in Machine for Felting Hat Bodies.*—Patent dated June 4, 1861.—This invention relates to an improvement in that class of felting machines in which the felting is performed by four rollers placed close together, but not parallel, in a barrel or cylinder. Two of the rollers are hung on springs so as to allow them to accommodate the size of the enclosed chamber to the hat passing through it. By means of the lever H, which bears upon the slide G supporting the curved steel spring, the ends of which bear against the slides in which the two lower rollers are hung, the strain upon the rollers can be readily adjusted as may be desired by a single movement of the operator.

Claim.—The spring E, having a curvature concentric, or nearly so, to the barrel B, in combination with the slides *d d'*, and rollers D D' and C C, of a hat felting or sizing machine, when operated by the slide G and lever H, or their equivalents, substantially as shown.

No. 32,501.—CASPAR ZWICKI, assignor to JOHN MASON, ANTHONY SNYDER, and NICHOLAS SNYDER, of Pittsburg, Pa.—*Improvement in Looms.*—Patent dated June 4, 1861.—This invention relates, first, to the construction and operation of the devices by which the shuttle is driven, whereby I am enabled to drive the loom at a very high speed, and without a blow or jar. It also relates to the peculiar construction of the shuttle and brace by which the shuttle is kept in close contact with the side of said brace, permits the use of a proportionally larger bobbin than in the old shuttles, and can pass with greater security through the shed.

Claim.—In combination with the cams F, on the fast-moving shaft B, for operating the rods G and cam I on the slow shaft K, for shifting said rods, substantially as and for the purpose described.

Also, in combination with the cams F, secured to the upper shaft of the loom, the rods G, levers H and M, and picker-staffs O, when constructed and operated substantially in the manner herein described.

Also, a three-sided shuttle, the two straight sides of which are in contact with the shuttle race, and bear the relation of an acute angle to each other, while the third or outer side is convex, substantially as and for the purpose described.

Also, in combination with a three-sided shuttle, as described, a shuttle race, the two sides of which bear the relation to each other of an acute angle, to conform to the sides of the shuttle and allow the shuttle to run close to or in contact with the reed frame, substantially in the manner described.

No. 32,502.—HIRAM ALDRIDGE, of Michigan City, Ind.—*Improvement in Machines for Threshing and Separating Grain.*—Patent dated June 11, 1861.—This invention will be generally understood by reference to the engraving and claim. It does not admit of a brief description.

Claim.—First, the arrangement on the front of the concave A of a threshing machine of two slotted and perforated ears *a a*, said ears serving as guideways for pins *b b*, and as

bearings for the upper ends of the adjusting hand screws D, which are located in front of the concave, and within the frame of the threshing machine, all in the manner and for the purpose described.

Second, the arched or raised cover H, made in two parts, which are hinged and dowelled together, and form, when on the machine, a continuation of its side boarding, all in the manner and for the purpose described.

Third, the arrangement of a beater G, which has a space existing between its blades and its axis, and operates, in the manner described, between the ends of the canvas belt F and open straw-carrier belt E, for the purpose set forth.

Fourth, the adjustable open extension straw-carrier belt N and extension guideway O, in combination with the canvas belt E and first straw-carrier belt F, substantially in the manner and for the purpose described.

Fifth, the arrangement and combination of the extra closed beater P with the first and second open straw carrier-belts F N, substantially in the manner and for the purpose described.

Sixth, the combination of the extension tailboard Q with the inclined bottom of a straw-carrier guideway *d d* or O, substantially as and for the purpose described.

Seventh, the combination of a chaff-carrier T, which is adjustable on a fixed axis U, in the path of a vertical circle, separator shoe K, inclined transverse return spout Y, and elevator Z, substantially in the manner and for the purpose described.

Eighth, the arrangement of the lower end of the adjustable inclined sieve or deflecting board S, on a permanently located shaft U, so that it may be adjusted from its upper end in the path of a vertical circle, substantially as and for the purpose set forth.

Ninth, the arrangement of the outside hangers S′, of the adjusting frames which carries the sieve and chaff-carrier, in combination with the shafts U W, curved slots *n n*, and screw-threaded bearings *m m*, with clamp nuts, substantially in the manner and for the purpose described.

Tenth, the extension tailboard Y′, in combination with an inclined sieve which is adjustable on a fixed axis U, in the path of a vertical circle, inclined bottom of the separator shoe K, incline transverse spout Y, and elevator Z, substantially as and for the purpose described.

No. 32,503.—JOHN ANDREWS, of Brunswick, Me.—*Improved Mode of Securing Circular Saws to Arbors.*—Patent dated June 11, 1861.—This invention consists in the employment of a sliding or adjustable bush in connexion with two hollow collars, one of which is fixed and the other movable upon the mandrel, the hollow movable collar being adjusted by a nut upon the extremity of the mandrel, for the purpose of obviating the difficulty caused by the variation in the diameter of the eyes of the saws in adjusting the circular saws on their arbors.

Claim.—The combination, in the manner substantially as shown and described, of the hollow, adjustable collar E, conical bush D, and fixed recess collar B, with each other and with the saw C and arbor A, all as set forth for the purpose specified.

No. 32,504.—C. L. W. BAKER, of Hartford, Conn., assignor to Himself and J. W. BLISS, of the same place.—*Improvement in the Manufacture of Corn Brooms.*—Patent dated June 11, 1861.—This invention consists in securing the brush in separate tufts into a wooden head by the use of some adhesive substance, the handle being screwed into the head.

Claim.—An approved article of manufacture, *consisting* of a broom, *being composed* of the fibre of broom corn set in tufts in a block of wood, substantially in the manner as and for the purpose described.

No. 32,505.—H. L. BALDWIN, of Branford, Conn.—*Improvement in Currycombs.*—Patent dated June 11, 1861.—This invention is explained by the claim.

Claim.—The described currycomb as a new article of manufacture, having its back plate A and teeth *a* cast in one piece, the teeth being of cylindrical or an approximate form, and about of an equal thickness throughout their length, as and for the purpose specified.

No. 32,506.—SARAH A. BALDWIN, of Waterbury, Conn.—*Improved Skirt-Supporter.*—Patent dated June 11, 1861.—This supporter is formed of strips of covered steel or whalebone put together with clasps so as to form a waistband, and combined with shoulder straps and and back stays, a means of lacing the band around the body, and also spring pins for attaching the skirts to the band.

Claim.—The combination of the several strips A B, arranged and secured together, and furnished with shoulder straps D D, lacing hooks *i i i*, and spring pins for attaching the skirt to the supporter, all as described and represented.

No. 32,507.—L. D. BARRAND, of New York, N. Y.—*Improved Scroll Sawing Machine.*—Patent dated June 11, 1861.—The saw is hung and strained between two roller carriages working against two inclined surfaces, and held against them by the straining springs of the saw, for the purpose of keeping the saw under a proper degree of tension, and guiding it in its reciprocating movement in a firm and steady manner. In combination with the lower saw carriage is a slotted lever for giving the alternate reciprocating motion to the saw.

Claim.—First, the two inclined planes F F', on which the rollers *d d d d* work, arranged as set forth, in combination with springs E E', connected to the guide bars C C', between which the saw is hung, substantially as described.

Second, the slotted lever G, connected to the lower carriage on the inclined plane F', operating as and for the purpose described.

Third, the guide flanges *f f*, on the inclined planes F F', for guiding the rollers *d d* of the saw carriages, as set forth.

No. 32,508.—HENRY H. BEACH, of Philadelphia, Pa.—*Improvement in Grain Winnowers.*—Patent dated June 11, 1861.—Below the delivery board, and in front of the fan, are arranged two series of chutes, one of which is inclined reversely to the other in such a manner that the grain passes by its own weight from the upper to the lower end of the series, the blast acting to carry off the lighter substances over the outer series.

Claim.—The two series of chutes represented by the letters *c* and *d*, when combined and arranged substantially as and for the purposes set forth.

No. 32,509.—SAMUEL W. BIDWELL, of Hartford, Conn.—*Improved Machine for Boring and Mortising.*—Patent dated June 11, 1861.—This invention consists in arranging any number of spindles in a line upon a proper framework, and in providing therefor an adjusting guide or pattern, so that in adjustrng either two of the said spindles in which the bit is secured at any required distance from centre to centre, the whole number of spindles by the same operation will be adjusted to even distances therewith. By means of an arrangement of pulleys, driving belt, and friction rolls, with the sliding heads, the distances of the spindles from centre to centre may be increased or diminished without changing the length of the belt.

Claim.—The arrangement of the pulleys *i*, belt *d*, friction rollers *e*, with the sliding heads B, and pulleys *c*, substantially as and for the purpose described.

No. 32,510.—CHARLES H. BURD, of Roxbury, Mass.—*Improved Telegraphic Apparatus.*—Patent dated June 11, 1861.—The inventor says: In the employment of my invention in a telegraphic circuit, I am enabled to dispense with local circuits and batteries, such as are essential to the Morse system of telegraphing by galvanic battery. Telegraphic signals may be made through a very extended circuit by this invention, in the use of which the direction of the current from the battery is to be alternately reversed—that is to say, the current, after having been sent in one direction from the battery and through the helices, is to be made to flow in the opposite direction through them.

Claim.—The combination of the permanent magnet A, the two helices B B, and the non magnetic movable U-piece C, the whole arranged substantially as explained, and so as to operate together under circumstances and in manner as specified.

Also, the key as constructed, and made to operate with a battery, the two helices, the permanent magnet, and the non-magnetic U-piece, substantially as described.

No. 32,511.—AMOS CHASE, of North Ware, N. H.—*Improved Adjustable Chair.*—Patent dated June 11, 1861.—Attached to the under side is a pendant bar or rod fitted in a suitable socket, slotted vertically at its back, to admit of a rod or arm secured at right angles to the lower part of the seat bar, to slide up and down in the said slot. The seat may be secured at any desired height by means of a set screw in the socket.

Claim.—The rod C, secured to the under side of the seat D, and fitted in the socket B, when used in combination with the bar or brace rod G, connected with the back F, and secured at its lower end to an arm H, which is attached to the rod C, and is fitted in a slot *c* in the socket B, the whole being arranged as shown to form an improved sliding or adjustable chain or seat.

No. 32,512.—DARWIN DE FORREST DOUGLASS, of Springfield, Mass.—*Improvement in Window Blinds.*—Patent dated June 11, 1861.—The blinds are made to slide laterally between guide bars placed at their upper and lower ends, and secured to the wall by means of a rack bar attached to the inner sides of each blind, which bar is actuated by a pinion upon a shaft extending through the casing, and provided with a knob inside of the room.

Claim.—First, the first metallic guide bars A and C, made substantially in the manner described and for the purpose specified.

Second, the rack and pinion G and I, or its equivalent, in combination with the guide bars A and C and blinds, for the purpose specified, and operating substantially in the manner described.

No. 32,513.—WM. C. and JACOB DUNN, of New York, N. Y.—*Improvement in Carriage Bodies.*—Patent dated June 11, 1861.—The object of this invention is to combine an open body brett or barouche body, and close or standing-top coach body, all in one vehicle, so that either form of vehicle, by a simple manipulation, may be used as desired: the parts composing the barouche and coach body being entirely removed from the open body when not in use.

Claim.—First, the combination of the open body A with the standing top, formed of the

end pieces E E, top F, panels G, and doors H, secured together, as and for the forth.

Second, the combination of the permanent open body and calash top with a stat constructed as explained, the whole being adapted and arranged to form a new and in convertible body for vehicles, as set forth.

No. 32,514.—R. FINNEGAN and A. F. W. SCHULTE, of New York, N. Y.—*Improved Pressure Gauge.*—Patent dated June 11, 1861.—This invention relates to a pressure gauge in which the pressure of the steam or other fluid is received on a flexible plate. It consists in the combination, for the purpose of transmitting the movements of the plate to the index, of a lever and a spirally-grooved spindle, which receives the point of a pin inserted through one side of a socket secured to the slotted bar, thus causing the spindle to receive a rotary motion by the application of pressure in an endwise direction, and a longitudinal motion when any force is applied to turn it. Upon a screw which has its shank fitted to turn in a fixed bearing upon the slotted bar is arranged a block, by means of which the distance between the fulcrum of the lever F, and a stud secured to the centre of the flexible plate, is varied, so as to make the flexure of the plate act with greater or less effect upon the index, the screw thus constituting a means of adjustment or correction of the gauge.

Claim.—First, the employment for transmitting the movements of the flexible plate B to the index *g* of a lever F and spirally grooved spindle H, combined and applied substantially as specified.

Second, the movable block E, carrying the fulcrum of the lever F and the screw I, applied in combination with the slotted bar D, or its equivalent, and operating substantially as specified, for the adjustment or correction of the gauge.

No. 32,515.—JOHN GRIFFIN, of Louisville, Ky.—*Improvement in Engines, &c., for Overcoming Dead Point in Cranks.*—Patent dated June 11, 1861.—The crank is attached to the shaft in such a manner as to be adjustable thereon. In the outer part of the crank is placed a wheel which works within a metallic ring, to which two springs of rubber or other suitable material are attached at opposite sides, the outer ends of the spring being secured to uprights, by which means the springs will tend to throw the driving crank past its centres, the springs being at an equal tension when the crank is in a vertical position.

Claim.—The combination with the crank B, or a suspended ring D, suspended between springs E E, so as to act upon the crank when passing its centres, in the manner shown and described.

No. 32,516.—DAVID HAINES, of Union Bridge, Md.—*Improvement in Hominy Machines.*—Patent dated June 11, 1861.—This invention consists in the arrangement of a vibrating stirrer within the hopper for keeping up a regular feed, said stirrer being connected with and operated by the crank-shaft, which gives the shaking motion to the riddle.

Claim.—The hopper D, arranged as set forth, the vibrating stirrer E, connecting-rods *i j*, arm *k*, and crank-shaft G, all arranged and operating as and for the purposes described.

No. 32,517.—EDWARD HOWELL, of Ashtabula, O.—*Improvement in Sewing Machines.*—Patent dated June 11, 1861.—The wheel, which serves as a feed and cloth-holder, is mounted upon an axle at the lower end of a rod which has a vertical movement in the plane of the needle-bar. At every stroke of the needle the wheel moves the cloth forward the length of a stitch by means of motion communicated by a pad attached to an arm, which is moved up and down by a stud or pin upon the needle-bar.

Claim.—The operating of the wheel E, when constructed and arranged as described, by means of the elastic pad K, substantially as and for the purpose specified.

No. 32,518.—EZRA F. HYDE, of Brooklyn, N. Y.—*Improvement in City Railroads.*—Patent dated June 11, 1861.—Upon the forward axle is placed loosely a wheel, the upper edge of which fits within the fork of a bent lever attached to the under side of the platform, the lever being connected by a chain with a shaft at the end of the platform. At the intersection of the straight and branch rails is a guide made with a straight edge on one side and curved on the other, so that by bringing the loose wheel to bear upon the curved side the car is made to turn upon the curve without the aid of a switch.

Claim.—The arrangement of the sliding adjustable wheel D with the axle C′ and lever E, as and for the purpose shown and described.

No. 32,519.—GEORGE L. JENCKS, of Providence, R. I.—*Improvement in Hemming Guides.*—Patent dated June 11, 1861.—This invention consists in a peculiar arrangement or method of uniting three flexible fingers relatively with each other, whereby the said fingers adjust themselves by an elastic action to the different varieties of work to be performed without requiring any special adjustment of its parts to change it from one kind of work to another.

Claim.—The peculiar arrangement or method, substantially as described, of uniting the fingers 1 2 3 upon the stock of a pressure pad, for the purpose specified.

No. 32,520.—RODOLPHUS KINSLEY, of Springfield, Mass.—*Improved Bell-Ringing Apparatus.*—Patent dated June 11, 1861.—The hammers which strike the bell are attached to

rods placed within inclined tubes secured to a platform which is made to revolve by means of gearing operated by a crank. The rods to which the hammers are attached are provided with spiral springs, which force the hammers against the bell, the revolution of the platform causing the hammers to withdraw to a certain point when they are released, by which means the bell is struck at a different point at each blow. The tubes are arranged so as to adjust the hammers to strike the bell at right angles.

Claim.—First, the employment or use of one or more hammers N, secured to a rotating platform C, and operating simultaneously and automatically with the platform C, so as to strike the bell A, and gradually rotate within or beneath it, for the purpose specified.

Second, the placing of the hammers N within adjustable tubes or sockets L, arranged substantially as shown, for the purpose of adjusting the hammer, so that the latter will always strike the bell at right angles.

Third, the arrangement, as shown and described, for the gearing F F G J and K, with the radial arms *e* on wheels F F, the pins *c d* on the wheels K F, the springs O on hammer-rods M, and the rotating platform C, for the purpose set forth.

Fourth, the combination of the hammer-springs O with the check-springs P, when applied to the hammer-rods M, to operate as and for the purpose specified.

No. 32,521.—W. S. KIRKHAM, of Branford, Conn.—*Improvement in Locks and Knob-Latches.*—Patent dated June 11, 1861.—This invention relates to an improvement in locks or knob-latches whereby the latches may be turned so as to suit either right or left hand doors, and secured in position so that they cannot casually be turned, by which turning of the latch its bevel is brought in proper relation with the nosing on the casing in whichever position the door may be hung, and the inverting of the latch case rendered unnecessary.

Claim.—Constructing the hub F of two parts *f g*, fitted together as shown, and both parts placed on the knob arbor G, and used in connexion with the spring H, the above parts being arranged with the slide E, lever D, and latch C, to operate as and for the purpose set forth.

No. 32,522.—WILLIAM A. LIGHTHALL, of New York, N. Y.—*Improvement in the Construction of Tube Sheets for Coolers and Condensers.*—Patent dated June 11, 1861.—This invention consists in casting tube sheets of iron or other metal in proper green or dry sand moulds, with the apertures for the tubes cast in them, either by setting "dry sand" cores of proper size in the mould or by green sand cores left in the mould by the withdrawal from it of the pattern, the apertures thus formed being ready for tubes upon removing the sand adhering to them.

Claim.—Constructing tube sheets for tubular coolers and condensers in the manner set forth.

No. 32,523.—HENRY LOWE, of Baltimore, Md.—*Improvement in the Manufacture of Caustic Soda.*—Patent dated June 11, 1861.—This invention consists in reclaiming the lime from the manufacture of caustic soda. The inventor says: After boiling the solution of carbonate of soda with the caustic lime the solution is drained off, and the carbonate of lime formed from the decomposition with the soda is drained sufficiently dry and then pressed in moulds in a suitable machine.

Claim.—The moulding and burning of artificial carbonate of lime, substantially in the manner and for the purposes set forth.

No. 32,524.—RICHARD MANSLEY, of Philadelphia, Pa.—*Improvement in Machines for Opening Rope.*—Patent dated June 11, 1861.—The upper separate feed-rollers revolve each on its own independent axis or shaft. To each supporting block of the rollers is secured one end of a bent rod, the other end of which is attached to a lever, to which is appended a weight, so that one of the ropes having run through, the action of the remaining upper rollers is not effected. The cylinder is provided with two sets of beaters and two sets of knife blades, the beaters being constructed in sections, so as to act successively upon the ropes. The knife blades are set in sectional iron plates arranged on lines about parallel to the general direction of the beaters.

Claim.—First, the combination of the separate upper feed-rollers D D′, &c., their supports P and the rods *d* connecting them with the levers *d″* and weights *d‴*, the whole arranged substantially as described and for the purpose aforesaid.

Second, the combination of the beaters *b*, knife blades *b′*, and the adjustable feeding apparatus, the whole constructed and arranged substantially as described.

No. 32,525.—JAMES MCCARTY, of Reading, Pa.—*Improvement in Annealing Cut Nails.*—Patent dated June 11, 1861.—This invention is explained by the claim.

Claim.—Annealing cut nails by confining them in a suitable vessel, subjecting both vessel and contents to a red heat, and allowing the whole to cool from six to twelve hours, according to the size of the nails and tube, and maintaining the vessel air-tight during the heating and cooling process, as set forth.

No. 32,526.—H. MCKENZIE, of Talladega, Ala.—*Improvement in Tanning Leather.*—Patent dated June 11, 1861.—The invention is explained by the claim.

Claim.—The employment or use of the root and other parts of the plant known by the name of Ceanothus Americanus, either alone or mixed with oak bark or other tanning materials, as described, for the purpose of tanning hides or skins.

No. 32,527.—W. H. NICHOLS and F. D. STRONG, of East Hampton, Conn.—*Improvement in Nail and Screw Heads.*—Patent dated June 11, 1861.—A circular blank is first cast on the head of a nail or screw suitably adapted to the size thereof, and from said blank is produced a head of the desired shape and ornamentation, by subjecting the blank to heavy pressure between swaging dies adapted to the purpose.

Claim.—An ornamental nail or screw, made with a head which is first cast upon the shank and then pressed, in the manner shown and described.

No. 32,528.—J. S. PARKER, of West Willington, Conn.—*Improvement in Machines for Turning Spools.*—Patent dated June 11, 1861.—A hinged dog is so arranged with an adjustable slide, and in such relation to the longitudinally sliding cutter-head, that, by the action of the dog, the end of the block is kept clear of the cutter intended to square the said end, until, by pushing the cutter out, the other end of the block is firmly driven into the spurs of the spur centre, and the turning of the block independently of the spur is prevented.

Claim.—The combination of the protecting dog E, or its equivalent, with the cutter-head A, for the purpose described.

No. 32,529.—F. A. PERRY, of St. Louis, Mo.—*Improved Ornamental Fabric or Manufacture for Window Shades.*—Patent dated June 11, 1861.—A kind of fabric known as "Swiss mull" being stretched over a frame is coated or sized with a composition consisting of glue, soda soap, alum, and water; when dry, the fabric thus treated is ornamented in imitation of embroidery, by the use of a stencil plate of the required design, and a composition consisting of zinc white ground in boiled linseed oil, spirits of turpentine and nut oil, laid on with a brush.

Claim.—As a new manufacture, a thin fabric prepared in the manner described, and ornamented in imitation of embroidery, either needle or tambour, in colors or white, substantially in the manner set forth.

No. 32,530.—J. H. PHILLIPS, of Waverly, Mo.—*Improvement in Hemp Breaks.*—Patent dated June 11, 1861.—The object of this invention, which is explained by the claim, is to pass the crushed stalks in a serpentine form between the two clearers, and, as the stalks are held by the rollers, the clearers will loosen and scrape off the woody matter from the fibres, and, at the same time, give a rapid shaking motion to the fibres.

Claim.—Having the edges of the clearers *a a* made in scolloped form, and so operated and geared that the scolloped blades of one wheel shall alternately pass between the blades of the opposite wheel, thus alternately elevating and depressing the hemp between the scolloped edges, all in the manner and for the purpose shown and described.

No. 32,531.—SILAS S. PUTNAM, of Dorchester, Mass.—*Improved Horse-Shoe Nail Machine.*—Patent dated June 11, 1861.—This invention, the nature and object of which will be learned from the claim, does not admit of a brief description.

Claim.—First, connecting each pair of hammers to a single lever or crosshead, through which they are operated, and by means of which they may be made to strike simultaneously and accurately around a line passing through the centre of the nail rod.

Second, in combination with the above, the connecting rods *s* and *v*, and eyebolts *r* and *u*, or their equivalents, operating as set forth, for the purpose specified.

Third, interrupting the action of the hammers while open, and holding them open at the will of the operator, for the purpose specified.

Fourth, the rod I, in combination with the levers G and H, and with the hand lever W and lever *r'*, or their equivalents, whereby the hammers may be stopped and started at the will of the operator, as set forth.

Fifth, the gauge d^2, which is brought into position to gauge the nail rod while the hammers are stationary, and is drawn out of the way before they are again started by devices acting by the power of the machine itself, but brought into action of the operator, as set forth.

Sixth, the rod F, with its notch 15 and shoulder 2, in combination with the shaft U and the parts immediately connected therewith, whereby the nail rod is always returned to its position, and the cutter *y'* is raised out of the way of the hammers before they are started, as set forth.

No. 32,532.—GEORGE W. RAINS, of Newburgh, N. Y.—*Improved Apparatus for Steam Boilers.*—Patent dated June 11, 1861.—At the bottom of the cylinder, and just above the water passage, is a throat of inverted conical form, made sufficiently larger than the piston to permit a free water communication between the cylinder and the boiler, and prevent the collection of sediment around the piston rod. In the piston are two or more holes, and on its under side is fitted a ring valve to close the said holes, the valve being attached to the piston by three screws, which allow it to drop a short distance below the piston, to permit steam to pass freely through on its descent through the upper portion of the cylinder. On the descent

of the piston this valve is arrested by the resistance of the water, and caused to close the holes, but drops again when the piston is arrested. Fitted to slide on the piston rod is a weight J, furnished with a dog working on a pin, to gripe the said rod. This weight is made to act upon a clamp I L, to cause it to arrest the piston rod in its descent.

Claim.—First, the inverted conical throat *g*, arranged relatively to the water pipe or passage *a*, and in combination with a piston rod passing through the bottom of the cylinder, substantially as and for the purpose specified.

Second, furnishing the piston B with one or more valves *e*, applied to operate substantially as described for the purpose set forth.

Third, the independent weight J, applied to the piston rod C, to operate in combination with the dog I L, substantially as and for the purpose specified.

No. 32,533.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Dampers for Steam Boilers.*—Patent dated June 11, 1861.—The object of this invention is so to control the draught through the upper and lower tubes of a horizontal multitubular boiler as to counteract the natural tendency of the gases of combustion to come out from the upper tubes at a higher temperature than from the lower ones.

Claim.—The combination with a sliding damper applied to the rear tube sheet of a horizontal multitubular boiler, of a stationary frame C, interposed between the said tube sheet and the damper, to form a space between the said damper and the tube sheet, substantially as and for the purpose specified.

Also, the construction of the so-applied frame C with two or more openings *b* b^1 b^2, each of a size to communicate with one or more tiers of tubes, said openings being separated by bar-like partitions, which either fit to the tube sheet or not, as shown at *d* and *e*, in Fig. 2, substantially as described.

No. 32,534.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Valve Gear of Steam Engines.*—Patent dated June 11, 1861.—The stem of the cut-off valve is furnished outside of the chest with a wrist for the connexion of a slotted link, with which the rods of two cut-off eccentrics are connected. These eccentrics are so arranged upon the shaft relatively to the main eccentric, that the one L, by direct connexion with the wrist, would effect the cutting off of the steam at the earliest point in the stroke of the piston that is desired, and that the other M, by a similar direct connexion, would permit the steam to follow throughout the greatest length of the stroke that is desired. Means are provided for controlling or adjusting the position of the said link, for the purpose of cutting off at various points in the stroke of the piston. The cut-off gear is connected with the throttle valve, for the purpose of regulating the engine by the throttle valve, when, with the latter open, the regulation by the cut-off would require steam to be cut off within a certain distance of the commencement of the stroke of the piston.

Claim.—First, the employment of two eccentrics connected by a link, for the purpose of closing the ports at various points in the stroke of the piston, in combination with independent means of opening the ports for the induction of steam, substantially as described.

Second, the employment, in combination with the so-applied link and its supporting rocker N of a toggle O P, so arranged and applied that, by a continued movement in one direction, it will carry the link throughout its whole range of motion on the valve wrist, and back again, substantially as and for the purpose specified.

Third, the employment for combining the throttle valve with the toggle O P, which effects the movement of the cut-off link of a toothed pin *p*, a notched hook X, or its equivalent, a stationary pin p', and a spring *q*, the whole combined and operating substantially as specified.

No. 32,535.—JOSEPH B. SAWYER, of Templeton, Mass.—*Improved Cane-Seat for Chairs.*—Patent dated June 11, 1861.—This invention will be understood by reference to the engraving and claim.

Claim.—As a new article of manufacture, a cane-bottom chair made single, but the strands of ratan in which are so interwoven as to form a continuous bearing surface, and are secured to the frame A by suitable holes *f i*, in the manner substantially as specified.

No. 32,536.—W. B. STRONG, of New York, N. Y.—*Improved Trunk and Bedstead.*—Patent dated June 11, 1861.—The trunk is made to open at the end instead of the side, each end being provided with a lid to support an air mattress. A framing consisting of upright bars may be fitted to the trunk to sustain a cover of water-proof cloth or netting.

Claim.—A trunk formed of two equal parts *a a'*, connected by hinges at one end, and provided with lids *b b'*, the latter having a folding frame *c*, a framing combined with bars *e d*, a cover C, of water-proof cloth or mosquito netting, and a suitable mattress B, all arranged to form a combined army trunk and bedstead or couch, as set forth.

No. 32,537.—E. F. SLOCUM, of Chicago, Ill.—*Improvement in Lamps.*—Patent dated June 11, 1861.—Inside of the top of the lamp are arranged three upright springs at unequal distances from each other. This top is fitted with a cover, in the base of which are cut three square openings to fit over the springs, by which means the cover is held in a proper and always the same position.

Claim.—The combination of three or more springs with a lamp top, arranged substantially as described and for the purpose specified.

No. 32,538.—ERASTUS W. SMITH, of New York, N. Y.—*Improvement in Steam Engines.*—Patent dated June 11, 1861.—The first claim explains the nature and object of this invention. The hollow cover of the steam cylinder is connected by a pipe with the "donkey" boiler. The space surrounding the cylinder is connected with the upper and lower casings by means of curved pipes, and a pipe provided with a valve or cock leads from the lower casing into the main boiler.

Claim.—First, heating the cylinder of a marine steam engine by enclosing said cylinder in whole or in part within steam, which is generated separately from and at a higher pressure and temperature than the initial pressure of the steam admitted to the interior of the cylinder, substantially as and for the purpose set forth.

Second, the employment of the donkey boiler C, connexions D, the steam jacket or connected spaces B1, B2, B3, and the connexion G, leading from the base of such connected spaces to the main boiler or series of boilers A, all combined and arranged substantially as and so as to operate together in the manner set forth.

No. 32,539.—GEORGE SMITH, of New York, N. Y.—*Improved Burglar-Alarm and Animal Trap.*—Patent dated June 11, 1861.—This invention consists in arranging the "sere" of a fire-lock with a hammer and gun barrel, and attaching a cord to both ends of the sere so that it may be placed in a position where the cords may be connected at each end with a door or window, and give the alarm if either are opened.

Claim.—The sere E, arranged or pivoted as shown, to admit of cords or chains being attached to both ends of it, in combination with the hammer C, and one or more fire-arm barrels A, substantially as and for the purposes described.

No. 32,540.—ABRAHAM STROH, of Port Jervis, N. Y.—*Improved Car-Coupling.*—Patent dated June 11, 1861.—On the upper part of the draw-head is a socket in which a vertical shackle bolt is fitted, and directly back of the bolt is a drop slide fitted in the socket. Upon raising the bolt the drop will pass by its own gravity beneath the bolt and sustain it, when the coupling will be disconnected. The draw bolt passes through a tube, and is provided with a nut at the end which bears against India-rubber springs placed within a cylindrical box.

Claim.—The combination and arrangement of the slotted gravitating drop H, bolt G, box C, springs c, draw-head pipe B, bolt E, and draw-head A, all in the manner and for the purposes herein shown and described.

No. 32,541.—S. C. STURTEVANT, of Cleveland, O.—*Improved Tubular Grates for Steam Boilers.*—Patent dated June 11, 1861.—Each tube is constructed with a right and left hand screw on either end, fitting into corresponding right and left hand threads in the return end pieces. The tube which connects with the boiler is provided with a small pipe connected also with the boiler, for the purpose of establishing a connexion between the boiler and the tubes when the engine is not at work, thus preserving an equilibrium between the temperature of the water in the boiler and tubes.

Claim.—A series of detachable flue grates when used in combination with the pipe F, as and for the purpose specified.

No. 32,542.—JOHN TRAGESER, of New York, N. Y.—*Improvement in Apparatus for Evaporating Liquids.*—Patent dated June 11, 1861.—This invention consists in constructing the pipes which are laid in a series one above the other or side by side, with an angular projection extending within a short distance of their ends, for the purpose of preventing the pipes from sagging and preserving an unbroken corrugated surface.

Claim.—The arrangement of one or more angular projections *a*, on the sides of the pipes A, of a cooler or evaporator, substantially as and for the purpose shown and described.

No. 32,543.—A. H. TREGO, of Lambertville, N. J.—*Improvement in Car-Coupling.*—Patent dated June 11, 1861.—This invention is explained by the claim.

Claim.—The attaching of rods or bars C to the bolts B, when the said rods or bars are arranged as shown, so that their lower ends may, as the bolts are elevated, drop by their own gravity into the back parts of the draw-heads and sustain the bolts, the rods or bars being at the same time in such position as to be acted upon or thrown out by the entrance of the shackle or link into the draw-heads, so that the bolt may drop into the link, substantially as described.

No. 32,544.—C. VAN NAME, of Binghamton, N. Y.—*Improved Stanchion for Canal Boats.*—Patent dated June 11, 1861.—This invention consists in the employment, for the purpose of supporting the rail, of a cast iron stanchion, secured by bolts, which pass down through the deck, one into one of the beams which support the deck, and the other into one of the ribs for the purpose of strengthening the boat, and preventing any injury from a blow or heavy pressure on the rail.

Claim.—The employment of cast iron stanchions A, with flanges *a b*, and attached to the deck B, by means of bolts *c d*, as and for the purpose described.

No. 32,545.—JAMES WEATHERS, of Greensburg, Ind.—*Improvement in Heading Bolts.*—Patent dated June 11, 1861.—This device is designed for a ready heading of bolts, rivets, &c., at the ordinary blacksmith's forge or smithy, and it consists of two arms hinged together at one end and terminating at their free ends in steel jaws, whose opposing surfaces are channelled so as, when the jaws are closed, to form an aperture to securely gripe, and, when desired, to shape the rod to be worked.

Claim.—The heading tool A A', B, C C', *c*, D D', constructed and operating substantially as set forth.

No. 32,546.—E. R. WESTON, of East Corinth, Mass.—*Improvement in the Process of Converting Iron into Steel by Cementation.*—Patent dated June 11, 1861.—The iron articles to be steeled, being placed in a crucible with cyanide of potassium and powdered charcoal, are covered by a stratum of fire clay, and over this is placed a small quantity of lead or other fusible metal which fuses at a dark red heat, On the application of heat to the above the cyanide is decomposed into cyanogen gas and potassium. The lead which covers the contents of the crucible will fuse by the heat, and hinder, to a certain extent, the escape of the gas which acts upon the iron.

Claim.—The use of the fused or fusible metal upon the clay covering in the crucible, as set forth.

No. 32,547.—S. R. WILMOT, of Brooklyn, N. Y.—*Improvement in Hoop Skirts*—Patent dated June 11, 1861.—The object of this invention is to provide tips and slides for the hoops of skirts with stops so arranged as to prevent the hoops from slipping through them, and at the same time admit of the tips and slides being swaged or closed directly on the hoops without any previous manipulation.

Claim.—Constructing the metallic slides and tips for hoops of skirts, with a lip or stop *c*, of a length equal to the thickness of the hoop, substantially as and for the purposeset forth.

No. 32,548.—SELIM E. WOODWORTH, of Murphy's, and JAMES S. WETHERED, of San Francisco, Cal.—*Improved Arastra.*—Patent dated June 11, 1861.—This invention, which is designed for the reduction of precious metals from ores and tailings, consists of a cast iron pan provided with two flanges, placed on opposite sides, and terminating in a ball pivot, which rests in a cup-shaped bearing on the frame, by which means the arastra can easily be tipped when the contents are to be drawn off. A cup-shaped cavity serves also as a bearing for a ball pivot at the lower end of the hollow shaft.

Claim.—The combination of a cast iron arastra with ball bearings G E G E and ball pivot H of hollow centre shaft I, constructed in the manner and for the purposes described.

No. 32,549.—GEORGE W. BRIDGMAN, of Somerville, Mass., assignor to Himself and OSGOOD DANE, of the same place.—*Improvement in Car Brakes.*—Patent dated June 11, 1861.—Extending longitudinally through the carriage, and so arranged as to allow of a free movement therein, are two rack bars, the teeth of which engage with a gear wheel having on each side a pinion, which operate two drums placed between the truck frames. Around these drums are placed chains, which, in connexion with a lever, operate the brakes. The brakes are caused to be thrown into contact with the wheels by means of a shaft operating a pinion which gears in a rack on the ends of the longitudinal bars, or by the momentum of the carriage, the forward motion of which causes one of the rack bars to be pressed against the locomotive or carriage in front.

Claim.—The combination and arrangement of the two rack bars K K, the racks I I, the gear H, and the two pinions G G, and drums F F, or the mechanical equivalent of such pinions and drums, applied to the carriage body or platform frame, and the draught chains of the brakes of the two truck frames.

Also, the arrangement and combination of the hand wheel shafts N N, pinions M M, and racks L L, or their mechanical equivalents, with the carriage and the rack bars K K, the racks I I, the gear H, the two pinions G G, and drums F F, or the mechanical equivalent of such pinions and drums, the whole being to operate substantially as and for the purpose or purposes as specified.

No. 32,550.—SAMUEL L. FITTS, of Ashburnham, Mass., assignor to C. and G. C. WINCHESTER, of the same place.—*Improved Boring Machine.*—Patent dated June 11, 1861.—Attached to a standard is a table having a sliding carriage, which is held up towards the standard by a spring fastened to the carriage and to the table. Secured to a shaft in the sliding carriage is a revolving carriage of a form corresponding with the chair bottom or other irregular-shaped article in which the holes are to be bored. This carriage is provided with ratchet teeth on its under side, which engage with a dog operated by a rod and shaft to move the carriage round, for the reception of the drill. The shaft which carries the drill is raised and lowered by means of a crank shaft secured to a bracket at the upper end of the standard

Claim.—The construction of an automatic machine for boring holes around the edge of an irregular-shaped article, when arranged and operating substantially as set forth.

Second, the ratchet *r* and feed mechanism O P Q R S, in combination with the revolving boring or drill shaft D, operating substantially as described.

Third, the sliding carriage I and spring L, for holding the carriage M up to the stop *v*, or its equivalent, operating substantially in the manner set forth.

No. 32,551.—ALBERT M. HILL, of Branford, Conn.—*Improvement in Locks and Knob-Latches.*—Patent dated June 11, 1861.—This invention consists in fitting the outer part of the latch in a collar which is placed in the face-plate of the lock-case and allowed to rotate therein, the collar being retained or prevented from casually turning by means of a catch or fastening, which arrangement admits of the latch of the lock being turned to suit either a right or left hand door.

Claim.—The fitting or placing of the latch C of the lock in a collar, which is placed in the face-plate B and allowed to turn therein, the collar having two parallel plane surfaces *c c* at its inner part, and used in connexion with the slide I placed at the inner side of the face-plate, all being arranged as and for the purpose set forth.

No. 32,552.—JOHN J. ADAMS, of New York, N. Y.—*Improved Flexible Back Brush.*—Patent dated June 18, 1861.—This invention is explained by the claim.

Claim.—My improved mode of constructing a leather flexible brush, the same consisting in securing all the rows of bristles, except the outer one, in the body of the brush, as set forth, then cementing the cover or upper plate to the body, and finally securing the outer row of bristles and the leather portion of the brush at the same time by a single line of wire, as specified.

No. 32,553.—CHARLES T. ANDERSON, of Hyattstown, Md.—*Improvement in Churns.*—Patent dated June 18, 1861.—At the end of the bellows is a tube or nozzle extending downward through a disc and resting upon the bottom of the vessel which contains the cream. The said disc is supported upon legs, and the part of the tube below the disc is perforated for the passage of air from the bellows. Near the end of the bellows is arranged a lever, one end of which is connected to the dasher rod, and to the other end is attached a cord which passes around a pulley and is connected with the lever by which the bellows are operated, so that by actuating the bellows a simultaneous rotary motion is communicated to the dasher.

Claim.—First, the combination with the bellows A and vertical nozzle G of the pivoted reciprocating dasher M, constructed and operated substantially as and for the purposes set forth.

Second, the described combination of the nozzle G, detachable dasher M, and eccentrically pivoted disc I, arranged and operating as explained.

No. 32,554.—EDWARD BADLAM, of Ogdensburg, N. Y.—*Improvement in Seeding Harrows.*—Patent dated June 18, 1861.—This invention consists in an arrangement of devices as stated in the claim, by which the land is first harrowed, the seed sown, and the ground rolled, all at one operation.

Claim.—The arrangement of the transverse harrow M, seed-sowers U U, and roller C, all receiving their motion from roller C, and combined and arranged for the purposes set forth.

No. 32,555.—ALBERT D. BRIGGS, of Springfield, Mass.—*Improvement in the Mode of Connecting the braces of Iron Bridges.*—Patent dated June 18, 1861.—The diagonal braces and clamp plates are so constructed that each brace shall lock into one-half of the clamp plate independently of the other, and when the two clamp plates are brought together shall cause the two braces to lap on or across each other, and be firmly held in place by the said clamp plates when bolted together.

Claim.—My improved mode of constructing and arranging the clamp plates and braces, by which improvement each brace is made to lock into but one of the clamp plates, and simply lap over or across the other brace, but not interlock therewith, the whole being substantially in manner and for the purpose set forth.

No. 32,556.—ROBERT BROWN, of Frederick, Md.—*Improvement in Harvesters.*—Patent dated June 18, 1861.—In this machine the finger-bar is not hung upon the crank shaft, but secured to an independent hollow shaft which is journaled in stationary bearings on the main frame of the machine, and to which shaft the frame supporting the reel is also rigidly secured. The crank shaft is journaled within the journals of the said hollow shaft, so that a strain upon the latter occurring through the finger-bar will not affect the crank shaft. When a four-armed reel is employed one arm is provided with a rake-head, each pair of arms being mounted upon a metal ring *n*1 encircling the shaft and secured thereto by a bolt. When six arms are required, the ring of the centre pair is constructed with bolt holes set obliquely to the arms, and a bridge *n*2 perforated for the attachment of an arched yoke *n*3, to which the upper pair of arms is secured. By this means a reel of either two, four, or six arms may be used, the arms in either case being equidistant and adapted to revolve in one plane.

Claim.—First, securing both the finger-bar and the rake frame to a hollow shaft L, the journals *l* of which run in bearings M in the main frame, and themselves constitute bearings

for the journals *h* of the crank shaft. all as shown and explained and for the purposes set forth.

Second, the reel attachments *n n1 n2 n3* constructed, combined, and arranged in the manner specified, to enable the attachment of any desired number of arms.

No. 32,557.—JOSEPH G. COLLINS, of Boston, Mass.—*Improvement in Stills.*—Patent dated June 18, 1861.—This invention is designed to be applied to stills used in the manufacture of kerosene oil, and consists in forming a recess in the flange, into which recess the bottom of the still is to be fitted. The bottom is secured in its place by means of a ring or clamp fitted in a recess on the outside of the flange, and also in a groove formed in the bottom piece. The ring is secured to the flange by bolts.

Claim.—The ring or clamp *i*, in combination with the bottom *a* and the flange *b*, each formed and constructed substantially as above described.

No. 32,558.—L. H. GANO, of Ripon, Mass.—*Improvement in Buggy Tops.*—Patent dated June 18, 1861.—The front rib or bow of the top is provided at each end with a wheel or disc, by which it is secured to the body. In the bottom of the body is a lever, which is connected by a rod to a disc secured to the back of the body. To this disc are also secured rods attached to the wheels at the end of the bow and a spring. By actuating the lever with the foot, the rods are drawn from the wheels at the ends of the bow, and the top is left free to fall, the springs actuating the disc so as to throw the rods into the openings when the top is raised.

Claim.—The employment of the lever *a*, rod *d*, disc *e*, spring D, and rods B B, together with the wheel, or its equivalent, upon the lower portions of the front rib or bow of the top, the several parts being arranged and used as and for the purpose specified.

No. 32,559.—CHARLES GREGG, of New York, N. Y.—*Improved Automatic Regulator for Steam-Heating Apparatus.*—Patent dated June 18, 1861.—The piston is so arranged in the cylinder relatively to the opening by which the latter communicates with the boiler, that the pressure of steam acts upon the piston in such a manner as to exert a constant tendency to open the air valve, which tendency is opposed by a spring. The supply of cold air by the valve being in proportion to the heat, the temperature of the apartment will be kept uniform.

Claim.—Regulating or varying the supply of cold air to the steam-heating surfaces automatically, to suit the condition of said heating surfaces, by means of a spring damper in the supply pipe connected to the piston or diaphragm, the whole arranged to operate as and for the above-described purpose.

No. 32,560.—JOSEPH GUM and ST. CLAIR GUM, of Marseilles, Ill.—*Improvement in Cultivators.*—Patent dated June 18, 1861.—This invention is explained by the claim.

Claim.—The combination of the lever *l*, the levers *l' l'*, to control the lateral and vertical movements of the cultivators while in use, with the upright hooked metallic rod *r*, by use of which to adjust the cultivators from the ground, for removing the machine from place to place when the machine is not used in cultivation, substantially as described.

No. 32,561.—S. S. HERSEY, of Farmington, Maine.—*Improved Apple-Parer.*—Patent dated June 18, 1861.—This invention consists in an arrangement of a spring, knife-bar, and gearing, which causes the apple to rotate and the knife-head to travel round the apple from one end to the other. A projection on the inner side of the spur wheel, in connexion with a lever on the upright, prevents the wheel from being turned more than one revolution before the knife-head is thrown back.

Claim.—First, the arrangement of the spring L, knife-bar M, sector J, and wheel I, substantially as shown, so that the spring L may perform the double function of keeping the knife O to its work, and throw back the knife to its original or starting point after the completion of its work, as set forth.

Second, the employment or use of the projection *h* on wheel C, in combination with the lever P, arranged in relation with sector J, to operate as and for the purpose set forth.

No. 32,562.—RALPH HILL, of New York, N. Y.—*Improvement in Daguerreotype Cases.*—Patent dated June 18, 1861.—This invention is explained by the claim and engraving.

Claim.—Providing daguerreotype cases with metallic rims B, swaged or struck up with flanges *a a* and notches, as shown at *b*, to form mitre joints at the corners of the case and connected by wires *c*, to form hinges or joints for the cases, substantially as and for the purpose set forth.

No. 32,563.—J. J. HIRSCHBUHL, of Louisville, Ky.—*Improved Padlock.*—Patent dated June 18, 1861.—The object of this invention is to obtain a padlock that cannot readily be picked, and of comparatively simple construction. The invention does not admit of a brief description.

Claim.—First, the employment or use of the dogs D E F, and slide G, when combined and arranged with the bow or shackle B, substantially as shown, so as to secure both ends of the same.

Second, the employment or use of the pin *t*, placed in the bit-plate of the key J, and used in connexion with the slotted plate *q*, for the purpose of actuating the slide G, as set forth.

Third, the arm *w*, attached to the outer end of the slide G, in combination with the slide *a'*, on the bow or shackle, for the purpose of throwing the notch *n* of slide G out of the reach of the pin *t* of the key J, as set forth.

No. 32,564.—T. C. HOOKER, of Kendall, N. Y.—*Improvement in Harrows.*—Patent dated June 18, 1861.—The two frames are connected together by links at each end and a rod or hasp in the centre, the latter being longer than the former, for the purpose of preventing the frames from coming in contact with each other, and allowing a twisting movement from the hasp as a centre, so that they may conform to the inequalities of the ground.

Claim.—Connecting the two parts A A of a harrow together by means of the links *b b* and the rod or hasp D, when the latter is of a greater length than the former, and all arranged substantially as and for the purpose set forth.

No. 32,565.—S. S. HOWARD, of Milton, N. Y.—*Improvement in Grinding Mills.*—Patent dated June 18, 1861.—The support or bracket of the bearing of the grinder shaft is formed so as to serve as the lower end of the hopper, for the purpose of rendering it stronger than the usual method of casting the bearing with a notch or recess to receive the lower end of the hopper.

Claim.—Having the support or bracket *e* of the bearing *d* cast with a basin or bowl F, substantially as shown, for the purpose of forming the lower part of the hopper G, the upper part of which registers with the basin or bowl F, when the two boxes A C are secured together, by which arrangement the bearing *d* is cast with the box A, and a strong and durable connexion obtained.

No 32,566.—JOHN P. JAMISON, of New York, N. Y.—*Improved Drawing Instrument.*—Patent dated June 18, 1861.—This invention consists in the construction of an instrument for drawing and ruling, to be used by draughtsmen, architects, or engineers, by means of which the ordinary square, straight edge, oblique and radiating rules may be dispensed with.

Claim.—First, the slide I, pencil-holder J, and beam A2, when the same shall be combined and operated in connexion with the beam A, as shown, for the purpose specified.

Second, in combination with the same, the pointer E and circular plate C, arranged and operated in the manner described for the purpose shown.

Third, the pencil-holder M, operating as described, in combination with the pencil-holder J, slide I, beam A2, and tube D, arranged and operated as shown for the purpose set forth.

Fourth, the point F, inserted in the tube D, in combination with the slide I and pencil holder J, arranged and operated as described for the purpose set forth.

No. 32,567.—JOHN KEEZER, of Chilicothe, Ohio.—*Improvement in Cultivators.*—Patent dated June 18, 1861.—The teeth *f f* are constructed each with a long shank fitting in adjustable fastenings, so that they can be firmly held at any distance apart. Attached to the main beams are stay rods *i i*, which pass through shanks of the cultivator teeth *f*. Connected with the front frame are stays E F, carrying a swivel, to which the whiffletree is attached; by means of a screw and nuts the swivel is rendered adjustable as to height, for the purpose of varying the depth of the cultivators in the ground.

Claim.—First, adjusting the distance between the teeth *f f*, or those used in their stead, by means of the adjustable fastenings *h h* and *g g*, and stay rods *i i*, when used in combination with the gallows frames B and C, and stay rods *a a*, constructed and arranged substantially as and for the purpose set forth.

Second, in combination with the foregoing, the stays F and E, swivel G, screw *b*, and nut *c*, when arranged in relation to each other, and operated in the manner and for the purpose described.

No. 32,568.—E. G. KELLEY, of New York, N. Y., and A. H. TAIT, of Jersey City, N. J.—*Improvement in Apparatus for Distilling Oils.*—Patent dated June 18, 1861.—This invention consists in the arrangement of a series of retorts one above the other in the same furnace, in combination with a suitable supply pipe, overflow pipes, and with a steam pipe, the steam passing through which is superheated by running the pipe through the interior of the furnace, and which communicates with each of the retorts in such a manner that the crude oil, supplied to the uppermost retort and running from the same by the overflow pipes to the lower retorts, is gradually heated, and the vapors of the oil, mixed with the superheated steam, are carried into one or more condensing chambers, where both the vapors of the oil and the steam are condensed by the action of one or more jets of water introduced through suitable roses, and by thus mixing the vapors of oil with steam, and condensing them simultaneously with the steam, the oil is refined and deodorized by one operation. The several retorts are connected in such a manner that the vapors formed in all the retorts are returned to the highest retort, whence they pass off into the condensing chamber.

Claim.—First, the arrangement of a vertical range of retorts A in an upright furnace B, in combination with the supply pipe *d*, connecting overflow pipes *e*, steam pipe D, and branch pipes *g*, all constructed and operating in the manner and for the purpose shown and described.

Second, the combination of the vertical range of retorts A, steam p'pe D, and one or more condensing chambers E E', substantially as and for the purpose described.

Third, the arrangement of the pipes e^*, in combination with the vertical range of retorts A and connecting pipes *e*, as and for the purpose set forth.

No. 32,569.—M. J. KNOX, of Knox Corners, N. Y.—*Improved Clothes Frame.*—Patent dated June 18, 1861.—This invention consists of a double quadrangular clothes frame or rack, constructed in such a manner that it can be extended or contracted at pleasure, for adapting it to hold a large or small quantity of articles for drying.

Claim.—The clothes frame described and represented, consisting of the bars A A and B B, extension slotted bars *b b* A' A' B' B', tightening screws and nuts *c d*, and clothes line D, all arranged, combined, and operating substantially as set forth.

No. 32,570.—F. W. KRAUSE and G. W. STRONG, of Chicago, Ill.—*Improvement in Grinding Mills.*—Patent dated June 18, 1861.—This invention consists in arranging upon one and the same shaft a corn-sheller with cracking and grinding devices. The runner is placed loosely on the shaft, and is forced by means of a spiral spring against a cup-shaped clutch, which is firmly secured to the shaft. On the back of the runner is a semi-spherical projection, which fits into the cup-shaped portion of the clutch, thus forming a sort of ball and socket joint, by which means the runner adjusts itself as occasion may require to a stationary disc secured to the frame.

Claim.—The arrangement on the same horizontal shaft C of a toothed cylinder E, working in a jointed spring concave G, in combination with the self-feeding, spirally-toothed cracking cylinder J, self-adjusting runner L, a cup-shaped toothed clutch M, with a corresponding semi-spherical projection *m* on the back of the runner L, constructed and operating as and for the purpose specified.

No. 32,571.—GEORGE LANE, of New York, N. Y.—*Improvement in Rulers.*—Patent dated June 18, 1861.—In the bevelled straight edge of the ruler is formed a deep groove for the purpose of absorbing any ink running over the edge of the ruler, and preventing it from getting upon the paper as it is ruled.

Claim.—A ruler having a capilliary groove *e* formed in one or both of its straight edges, substantially as and for the purpose described.

No. 32,572.—GEORGE MANN, jr., of Ottawa, Ill.—*Improved Safety-Guard for Steam Boilers.*—Patent dated June 18, 1861.—Over an opening in the upper part of the boiler is secured a short tubular column having a spherical enlargement at its centre part. In a recess in the upper part of this column is secured a metal disc having a concentric groove on each side for the purpose of reducing its strength to such a degree as to allow it to be burst by a pressure of steam less than the highest which the boiler is capable of bearing with safety. The disc is provided with a fusible plug which will be melted by a heat due to the same, or a less pressure of steam than is sufficient to explode the disc. Within the enlarged part of the tubular column is arranged a puppet valve, closing upward, the stem of which is made hollow and open at the top for the reception of the guard-pin, in order to prevent the valve from being closed until the disc has been blown away. Within a horizontal socket at the side of the column is a puppet valve so arranged as to admit steam to a whistle for sounding an alarm before the pressure in the boiler is high enough to fuse the plug.

Claim.—First, the employment of one or more explosive discs or plates D, constructed as described, with a concentric groove or grooves *f f* near the margin, and applied substantially as specified, in combination with the fusible plug *g*, as set forth.

Second, the valve E, applied below and in combination with the explosive disc D, substantially as and for the purpose set forth.

Third, the alarm whistle G, and pressure valve I, employed in connexion with the disc D, substantially as and for the purpose herein described.

Fourth, the guard-pin L, applied in combination with the valve E and disc or plate D, substantially as and for the purpose specified.

No. 32,573.—O. W. MARSHALL, of Windsor Locks, Conn.—*Improved Railroad Switch.*—Patent dated June 18, 1861.—Transversely of the track, upon which is arranged a small shaft, are secured dogs or projections, by turning which upwards upon the chairs against the sides of the rails, the latter are held securely in position.

Claim.—The employment of the shaft *c*, dogs *b*, arranged in connexion with the chairs or head blocks A, and rails *a* and *a'*, substantially in the manner as and for the purpose described.

No. 32,574.—F. B. MCGREGOR, of Commerce, Mich.—*Improvement in Water Elevators.*—Patent dated June 18, 1861.—The receiving trough is provided with two hooks which upset the buckets as they rise in turn. Upon the shaft is a double ratchet wheel provided with pawls connected by a bail, and so arranged as to be readily changed on reversing the motion of the windlass for alternately raising the buckets.

Claim.—The arrangement of the receiving trough with the windlass B, hooks G, buckets E, and short bars F, in the manner and for the purpose shown and described; and in combination therewith the arrangement of the ball K, with the pawls J J, and double ratchet wheel L, in the manner and for the purpose shown and described.

No. 32,575.—CHRISTOPHER MEYER, of New Brunswick, N. J.—*Improvement in Boots and Shoes.*—Patent dated June 18, 1861.—The upper part of a boot or shoe is provided with a foxing of rubber by passing the fabric, together with a thin sheet of plastic rubber, between rollers, and when prepared, is put upon the last and formed into the desired shape; the portions which have received the preparatory coatings are covered with pieces of rubber of corresponding shape. The uppers thus prepared may be packed up in any desired quantities as an article of merchandise, and sent to any distance to be made into boots or shoes.

Claim.—A shoe of which the upper is made of cloth or other fabric permeable to moisture, coated with rubber in the manner described, in such parts as may be desirable, and having its sole made of sole leather or some substance other than India-rubber or gutta-percha.

Also, an upper, prepared as above described, to be used for the purpose above set forth.

No. 32,576.—NATHAN MILLER, of Finley, Ohio.—*Improvement in Water Elevators for Cattle.*—Patent dated June 18, 1861.—This invention consists in the employment of two platforms connected with a piston or plunger which is fitted in a cylinder at the bottom of a reservoir or well and provided with a discharge pipe, so arranged that as an animal steps upon the platform it will descend and cause the water to be forced up through the pipe, and the act of stepping off the tilting platform will cause the other platform and plunger to rise and fill the cylinder with water again.

Claim.—The combination of the tilting platform H, with the platform F, when the latter is connected to the plunger C, which is fitted within the cylinder B, and provided with the eduction or water discharge tube I, all arranged to operate as and for the purpose set forth.

No. 32,577.—NATHAN MILLER, of Finley, Ohio.—*Improvement in Pumps.*—Patent dated June 18, 1861.—This invention consists in connecting a platform with a plunger by a series of levers in such a manner that by depressing the platform the plunger is also depressed and water consequently forced up through a pipe attached to the plunger.

Claim.—The combination of the platform I, box A, and plunger B, provided with the tube C, when the platform and plunger are connected by the levers E and uprights G H, arranged substantially as and for the purpose set forth.

No. 32,578.—S. G. MORRISON, of Williamsport, Pa.—*Improved Mode of Clearing and Feeding Grain to Burr Mill-Stones.*—Patent dated June 18, 1861.—This invention consists of an inverted conical hopper, in the centre of which is placed a cylinder attached to the spindle or shaft by armatures at the lower end only with a cylindrical filling of wood surrounding the spindle, for the purpose of diminishing the space in the cylinder, and thereby adapting the air space to the exhaust fan. Attached to and surrounding the said cylinder, and constructed of hard wood or metal, is a rubber or washer for the purpose of scouring or cleaning the grain and regulating the feed. By the action of the fan, all matter lighter than the grain is drawn up and carried off through the fan-box.

Claim.—The hopper T T, constructed and used as described, the cylinder H H, with its rubber, and the cylinder K, in combination with the horizontal exhaust fan, and the feed regulating device.

No. 32,579.—S. G. MORRISON, of Williamsport, Pa.—*Improvement in Ventilating Mill-Stones.*—Patent dated June 18, 1861.—Around the buhrs and connected with the curb is fitted a pipe, with the lower side on a level with the top of the lower buhr. In the pipe are openings which allow a passage from the buhrs to the pipe, and thence through the throat to the fan-blower and discharge-pipe.

Claim.—The pipe *c*, surrounding the curb, and having openings, as shown and described, in connexion with the fan-blower, the parts being arranged and operated as set forth.

No. 32,580.—ELI MOSHER, of Flint, Mich.—*Improvement in Water Elevators.*—Patent dated June 18, 1861.—In order to keep the bucket from turning, the chain or rope from the main shaft is made to pass through a pulley on the bail of the bucket to an adjusting shaft, which latter may be turned so as to wind the rope to adapt it to the depth of water. On the sides of the bucket are ears placed out of the centre, so as to rest against stops and prevent the bucket from tipping over when raised.

Claim.—First, the adjusting shaft *y*, in combination with the hoisting apparatus described, all being arranged and operated in the manner set forth.

Second, brake *z*, serrated plate *r*, adjusting shaft *y*, ears *a a*, tops *cc*, and hoisting apparatus, when all shall be arranged and operated in the manner and for the purpose specified.

No. 32,581.—MORTIMER NELSON, of New York, N. Y.—*Improvement in the Mode of Selecting Balls for Games of Chance.*—Patent dated June 18, 1861.—This invention relates to a tally-board formed with a series of numbers in the centre corresponding with the number of

each set of balls, there being four or more sets of different colors, in connexion with a circular revolving box provided with a neck and slide, by which only one ball can be taken at a time, for the purpose of preventing the possibility of cheating.

Claim.—The tally-board *g*, arranged in the manner substantially as shown, in combination with the selecting wheel *a* and sets of numbered balls, as specified.

No. 32,582.—W. P. PENN, of Belleville, Ill.—*Improvement in Threshing Machines.*—Patent dated June 18, 1861.—Over the threshing cylinder is arranged an adjustable concave. Under each separator-belt is arranged a metallic deflector, which conducts the grain to a riddle in a shoe placed in the lower part of the machine. At the outer end of the riddle is a small cylinder and concave constituting a tailings-thresher, having a spout passing under the apron of the riddle-shoe, and delivering the grain upon the lower seive. The nozzle of the fan-chest extends from the fan under the separator-belt to the shoe. A longitudinal movement is given to the shoe by means of a transverse crank.

Claim.—First, the arrangement of the concave *b* over the cylinder *a*, in combination with two close separator-belts and two beaters, as and for the purpose described.

Second, the two metallic deflectors, in combination with the two separate belts, the riddle-shoe, and the tailings-thresher, arranged in the manner described, for the purpose of depositing the grain upon the riddle in the shoe, so that the unthreshed heads will chiefly fall in the rear of the threshed grain upon the apron on the back part of the riddle.

Third, the combination of transverse crank-shaft and blower with the riddle-shoe, constructed as described, by which the heads may be transmitted from the upper sieve to the tailings-thresher.

Fourth, the construction of the riddle-shoe, as described, with an apron on the rear end, in combination with the spout of the tailings-thresher, occasioning the delivery of the unthreshed heads to the tailings-thresher.

Fifth, the small cylinder *u* and concave *v*, constituting a tailings-thresher, arranged as shown, with a spout *w* passing under the apron of the riddle-shoe, and delivering the threshed grain upon the lower sieve.

Sixth, the arrangement of the fan and the nozzle of the fan-chest, the riddle-shoe, and tailings-thresher, in the manner described and for the purpose specified.

Seventh, the combination of the two threshers and two separator-belts and beaters, arranged as described, with the concave *b* and springs *c*, in the manner and for the purpose specified.

No. 32,583.—C. T. PORTER, of New York, N. Y.—*Improvement in Centrifugal Governors for Steam-Engines.*—Patent dated June 18, 1861.—The balls and arms of the centrifugal governor are so combined with a spring, employed as a counterpoise to the centrifugal force of the balls and arms, that in all positions of the latter the distance through which the spring is deflected shall bear a nearly constant ratio to the radius of the circle described by the centre of the gyration of the balls and arms, thereby making the governor extremely sensitive to the slightest variation in the speed of the engine.

Claim.—Giving to the spring of a centrifugal governor an initial deflection of such amount that in every position of the balls the radius of the circle described by them and the distance through which the spring is deflected shall bear a nearly constant ratio with each other when constructed and operating substantially in the manner and for the purposes shown and described.

No. 32,584.—ABEL POST, of Henrietta, N. Y.—*Improved Mode of Ventilating Hay, Grain, &c.*—Patent dated June 18, 1861.—A square tube is set upright in the hay as it is being formed into mows or stacks, and connects with two horizontal tubes placed upon the ground, through which air passes to the upright tube. The central tube is gradually raised as the mow or stack is built up, leaving an opening in the hay into which the dry external air enters, by which means the hay is ventilated.

Claim.—The method of forming ventilating shafts in mows and stacks of hay or grain by the employment of movable tubes or boxes G G, which are gradually raised through and retained in the same during the act of building up, substantially as set forth.

No. 32,585.—R. B. PULLAN, of Cincinnati, O.—*Improved Bedstead Drapery-Fastener or Suspender.*—Patent dated June 18, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—The uniting of three or more arms radiating from a common centre by means of hinges B B B B, substantially as and for the purposes described.

No. 32,586.—JOHN ROBINSON, of Andover, Mass.—*Improvement in Picker Motion Looms.*—Patent dated June 18, 1861.—Within the shuttle-box, and resting on its bottom, is a picker-carrier, which serves to support a cushion or picker. The carrier embraces a picker-staff, so as to be capable of sliding freely up and down thereon, there being within the picker-staff a spring *b*, so applied to such picker-staff as to press the latter downward toward the bottom of the shuttle-box. Projecting downward from the rear part of the carrier is a tail-piece to steady the carrier in case of wear of the picker-staff. Beneath the lower end of the tailpiece is arranged a projection which serves as a rest or support for the tailpiece and its

carrier during its motion through the middle third portion of its arc of motion, the foot *f* sustained by an adjustable slider which slides freely on a horizontal supporting-rod *h* projecting from the frame. Another adjustable slider is also arranged upon this bar, and holds a helical spring, on the top of which an arm from the picker rests and bears while the picker-staff moves.

Claim.—The above-specified arrangement and application of the picker-carrier C and the spring *b* with the picker-staff and the shuttle-box.

Also, the combination and arrangement of the tailpiece *c* and the shoulder or stop *e* with the carrier C, the shuttle-box, and the picker-staff, as described.

Also, the combination and arrangement of the supporting-rod *h*, the adjustable fulcrum-supporter *g*, the adjustable spring-case *k*, and the arm *m*, the whole being applied to the picker-staff and its spring, as specified.

No. 32,587.—AUGUSTUS SANBORN, of Glover, Vt.—*Improvement in Hillside Ploughs.*—Patent dated June 18, 1861.—The object of this device is to prevent the earth from rising over the mould-board and falling between it and the plough beam by means of an adjustable wing arranged along the middle or course of the outer surface of the reversible mould-board, and projecting from a shaft arranged within a recess in the mould-board, the shaft being provided at its rear end with an arm arranged at an obtuse angle to the shaft, so as to enable the operator to move the wing by means of his foot.

Claim.—The combination and arrangement of the auxiliary mould-board or wing B with the hillside plough or its reversible mould-board A, and to operate therewith substantially as specified.

Also, the combination and arrangement of the bent arm *d* with the wing B and the reversible mould-board, the said arm being to enable a person to move the wing under circumstances and by means as described.

No. 32,588.—J. S. SMITH, of New York, N. Y.—*Improvement in Officers' Shoulder-Straps.*—Patent dated June 18, 1861.—This invention is designed as a substitute for the embroidered bullion shoulder-strap, as being less expensive and capable of being renovated when tarnished or otherwise disfigured.

Claim.—An officers' shoulder-strap having its border and bars or other devices composed of plates of metal stamped or otherwise wrought to give their surfaces the form, and gilt or silvered and burnished to give them the appearance of bullion embroidery.

No. 32,589.—A. J. STEVENS, of Aurora, Ill.—*Improved Slide Valve for Steam-Engines.*—Patent dated June 18, 1861.—The "anti-compression" valve is enclosed by the chest which is bolted to the back of the main valve, and consists of a flat plate having two ports of a width equal to that of the upper ports of the passages, but so much nearer to each other than the latter ports that when one port *c* or *c'* is opened by the corresponding port of the valve the other is closed by the valve. Secured to the top of the valve chest is a counter-pressure plate, which is attached to the said valve chest and consequently to the main valve by a tube which screws into the chest and serves as a means of communication between the valve chest and the atmosphere or exhaust pipe. By means of a bell-crank lever the anti-compression valve derives such a movement as to open and close the upper ports of the passages C C' alternately at the proper time to permit the exhaust to be continued through those passages and through the chest and the tube I, after either cylinder port has been closed to the main exhaust port by the main valve.

Claim.—First, the anti-compression valve C, enclosed in a chest D, secured to or formed upon the back of the main slide valve, and operating in combination with passages C C' in the latter valve, substantially as and for the purpose specified.

Second, the tube I, serving at the same time as a means of connecting the counter-pressure plate H with the main valve, and as a means of communication between the anti-compression valve chest D and the atmosphere or exhaust pipe.

Third, combining the anti-compression valve C with the main valve by means of a bell-crank or elbow lever E, connecting their stems as described, and having one of its arms furnished with a friction roller *k*, or its equivalent, working between stationary curved guides *m m*, substantially as and for the purpose specified.

No. 32,590.—AMASA STONE, of Philadelphia, Pa.—*Improved Apparatus for inserting Stoppers in Bottles.*—Patent dated June 18, 1861.—This invention relates to an apparatus for inserting stoppers into bottles filled under pressure, the bottle and stopper being provided respectively with a female and male screw.

Claim.—Making the piston or traverse rod which inserts the stopple in the bottle to revolve, and providing it with a crank and a device to couple it to the stopple to turn it, when it is inserted in the manner and for the purpose set forth.

No. 32,591.—G. L. TURNER, of New York, N. Y.—*Improved Car Spring.*—Patent dated June 18, 1861.—The surface of the plates between which the rubber cylinders are fitted are made bevelled or oblique from their peripheries to their central hubs, so that when the rubber is compressed it will expand inwardly instead of bulging outwards and thus prevent their

cracking or rupturing. To the parallel arms of the draw-bar are secured cross-bars which fit and work in guides attached to the main beams, by which means the springs are prevented from being unduly compressed.

Claim.—Having the surface of the plate on which the rubber rests made inwardly descending from periphery to hub, as and for the purpose shown and described.

The arrangement of the guiding stop-bars *b b'* and pins *e f* with each other and with the guides *c c'*, springs C, beams A, and draw-bar B, all as shown and described.

Also, having the guiding stop-bar *b'* arranged to swing upon a central axis upon the draw bar B, as shown and described.

No. 32,592.—V. WEITZ, of Cleveland, O.—*Improvement in Pumps.*—Patent dated June 18, 1861.—The cylinder is provided with two pistons working opposite to each other, the rod of the upper piston being hollow, while that of the lower piston is solid and plays through the hollow piston rod. Each of the piston rods is provided with an arm, the upper ends of which are hung each to a chain which winds around guide rollers and are attached at their other ends to the ends of a vibrating arc which forms part of a rock-shaft, by the action of which a reciprocating motion is imparted to the pistons. The lower end of the discharge tube is provided with a small perforation to permit the water to pass out gradually so as to prevent it from freezing, and between the outer end of the discharge tube and the hose is secured an elastic globe or bulb to equalize the discharge of the water.

Claim.—The arrangement of one piston rod within and concentric with another hollow piston rod, when used in combination with a pump cylinder containing two pistons working opposite to each other, in the manner and for the purpose described.

Also, the relative arrangement of one piston rod working through and concentric with another hollow piston rod, and of a vibrating arc, chains, and guide rollers, in the manner and for the purpose described.

Also, in combination with the preceding, the relative arrangement of a discharge tube perforated at the bottom end, an elastic reservoir and hose, as described.

No. 32,593.—JEROME WHEELOCK, of Worcester, Mass.—*Improved Rotary Valve for Steam Valves*—Patent dated June 18, 1861.—At each end of the cylindrical casing and between the inner and outer casing is a chamber through which the upper channel communicates with the inner casing. In each end of the valves are formed corresponding grooves in which are fitted annular split rings M M, on the under side of which are apertures through which the steam passes, causing the rings to expand and thus make a steam-tight joint between the surface of the valve and its chamber.

In the rear head of the valve casing is fitted a centring or pivot screw provided on its inner end with a steel ring, which fits in a corresponding bush in the end of the valve and prevents the valve from being crowded by reason of its taper form, thereby avoiding great friction and consequent wear of the valve.

Claim.—First, the packing rings M, when used in connexion with the end chambers C1 C2 and apertures *f f'*, in the manner and for the purposes explained.

Second, the combination of the centring screw J and steel bushings *d e j*, with the conical plug valve F, substantially as and for the purposes set forth.

No. 32,594.—J. M. WHITALL, of Philadelphia, Pa.—*Improvement in Preserve Jars.*—Patent dated June 18, 1861.—The under side of the edge of the cover is bevelled so that it will press hardest upon the inside corner of the packing ring, so that after the jar is filled and closed the pressure of the air on the outside of the packing will press it into the joint between the cover and the jar.

Claim.—As a new and improved article of manufacture, a jar with a groove around its mouth, provided with an India-rubber ring and provided with a top bevelled on the under side, as described, for the purposes set forth.

No. 32,595.—ROBERT CREUZBAUR, of Travis county, Texas.—*Improvement in Air Chambers.*—Patent dated June 18, 1861.—The air-chamber is made of such a shape that the diaphragm in its greatest reach in or out will nearly touch the sides of the vessel or air-chamber. The upper part of the chamber is made in a separate piece, and the diaphragm is bolted between this top piece and flanges on the main vessel, so that it can be accessible for renewal or for filling with air. Over the chamber is a small condensing pump, the piston rod of which is attached to a lever by a bolt and tap so as to render it easily removable for the purpose of screwing down a top or cap on the cylinder.

Claim.—First, the combination and arrangement of the diaphragmed air-chamber *a b r*, replenishing pump P, jointed piston rod *s t*, and detached cap *d*, substantially in the manner and for the purpose described.

Second, the manner, substantially as described, of constructing a condensing or replenishing pump of an air-chamber, so that the pump cylinder, while the piston is within it, can be closed air-tight by a lid or cover *d*, for the purpose set forth.

No. 32,596.—ANDREW DRAY, of Portland, Oregon.—*Improvement in Devices for Levelling Millstones.*—Patent dated June 18, 1861.—This invention consists in a hoop provided with

spirit levels at its top and with a clamp at its bottom for containing the marking device. The clamp consists of two metal plates extending across the centre of the hoop and connected by screw bolts, and serves to hold a piece of cloth or other suitable substance saturated with coloring matter which marks the projecting surfaces of the stone.

Claim.—The band or hoop A, in connexion with the clamp formed of the plates C C′, the latter being applied to the former, and provided with the cloth or other color-absorber or retainer E, as and for the purpose set forth.

Also, in combination with the band or hoop A and plates C C′, the spirit levels B applied to the band or hoop, as and for the purpose set forth.

No. 32,597.—ELI DUNCAN, of West Hilton, O.—*Improved Fruit-drying Apparatus.*—Patent dated June 18, 1861.—This invention consists of a ventilated chamber in which are placed trays for holding the fruit, and surrounded by flues proceeding from a fire placed underneath. In the floor and at the lower part of the two sides, as also at the top of the drying apartment, are apertures provided with valves for the purpose of admitting and regulating currents of air through the chamber.

Claim.—The flues *d d*, the apertures *g g*, and valves *h h*, when used in connexion with the fruit trays G G, all substantially arranged as and for the purpose set forth.

No. 32,598.—JOHN and SAMUEL FAHRNEY, of Washington county, Md.—*Improvement in Seed Drills.*—Patent dated June 18, 1861.—Between two bars hinged at their forward ends to the frame of the machine and attached to the same drill-tube is a brace, the forward end of which is attached to one of the short levers D, which latter are pivoted at their centre to the ends of a second set of levers, which in turn are pivoted to the ends of the long lever. The braces and drill-tubes, being thus united by a series of levers, form a flexible connexion or lever which will allow any drill to rise or fall independently of the others. By means of a weighted lever the drill-tubes are pressed into the ground, each tube being free to rise in case of obstruction.

Claim.—The set of levers D E and G, forming a flexible lever or system of levers for the purpose of regulating the pressure upon the drill-tubes or openers, substantially as set forth.

Also, the arrangement of the weighted lever I and the lever S, substantially in the manner and for the purposes specified.

No. 32,599.—J. T. FOSTER, of Jersey City, N. J.—*Improvement in Harrows.*—Patent dated June 18, 1861.—The harrow which is suspended beneath a frame consists of four bars, each of which is hung loosely so that its teeth will rest upon the ground. An alternately vibrating motion is given to the bars by means of connecting rods attached to cranks on the axles operated by a driving crank.

Claim.—Suspending separately and loosely each one of the oscillating bars E, so that it will adapt itself to the inequalities of the surface, constructed and arranged substantially as described.

No. 32,600.—R. J. GATLING, of Indianapolis, Ind.—*Improvement in Machines for Paving and Pulverizing the Soil.*—Patent dated June 18, 1861.—These shares are constructed in the form shown in the engraving, with sharp cutting edges in front and arranged in the two ends of the frame in such a manner that the soil left by one set shall be cut by the other. The shanks of the inner ends of the shares are pivoted so as to swing back on the sides of the frame, and are held in place by means of levers placed across them and secured by wooden pins which break in case the share comes against any obstacle in its way.

Claim.—The shares or cutters lettered K, when made, constructed, arranged, and operated substantially as shown and specified, for the purpose set forth.

No. 32,601.—CHARLES BUSH, assignor to Himself and JAMES WYGANT, of Newburg, N. Y.—*Improvement in Horse-hitching Posts.*—Patent dated June 18, 1861.—This invention consists in sinking below the surface of the pavement a barrel or casing of sufficient size to receive a hitching-post. The post is provided at its lower end with ears, which are made to fit into grooves in the upper part of the casing and sustain the post above the ground. On the top of the post is a cap which fits over the casing when the post is depressed, the object of the invention being to have the post out of the way when not in use.

Claim.—Combining with a hitching-post a casing A, substantially as and for the purposes described.

No. 32,602.—FRANKLIN CLARK, of Charlotte, N. Y., assignor to Himself and N. COONES, of London, C. W.—*Improvement in Harvesting Machines.*—Patent dated June 18, 1861.—On the interior ring of the driving-wheel is formed a serpentine groove in which works a friction roller, which is secured to a stud-shaft depending from the lowest part of a swinging forked arm; connected to the stud-shaft is a rod which communicates motion to the cutter. By means of a lever, which may be operated by the hand or foot, the swinging arm may be elevated and the roller raised out of the groove.

Claim.—The combination of the internal serpentine groove *a**, swinging arm B, shaft H, slotted bracket G, and lever E, operating in connexion with the driving-wheel A and the connecting rod I of the cutter J, in the manner and for the purposes set forth.

No. 32,603.—SAMUEL NOWLAN, assignor to CHARLES METTAM & Co., of New York, N. Y.—*Improvement in Galvanic Soles.*—Patent dated June 18, 1861.—The object of this invention is to provide an inner sole which will transmit electricity upwardly through the body, the heat evolved by the contact of the positive and negative plates of which the soles are formed serving in a gentle manner to keep the feet warm, while the acid contained in the perspiration which exudes from the feet quickens or excites the electrical capacity of the plates.

Claim.—As a new article of manufacture the described galvanic boot or shoe sole, the same consisting of copper and zinc plates, united in separate relations to their contiguous sections by means of a flexible insulating strip or strips and eyelet fastenings, substantially as described and for the purpose set forth.

No. 32,604.—JOEL WEBSTER, assignor to Himself and G. C. and T. H. HOTCHKISS, of Brooklyn, N. Y.—*Improved Journal-Box.*—Patent dated June 18, 1861.—Keyed to the shaft is a sleeve having in it a semicircular groove, which, in connexion with a similar groove in the inner surface of the journal-box, form bearings for balls in such a manner that the balls allow the shaft to rotate freely and at the same time prevent it from moving longitudinally.

Claim.—The employment of the sleeve C with one-half circular groove *a*, in combination with the shafts A, balls D, and box B, the latter being provided with one-half circular groove *b*, and the whole being arranged, constructed, and operating substantially as and for the purpose set forth.

No. 32,605.—JOHN ADT, of Waterbury, Conn.—*Improved Lock.*—Patent dated June 25, 1861.—This invention consists of a bolt connected by a rod to a U-shaped yoke and provided with a spring; by means of a key the disks of a hub are turned, which actuates a circular button fitting in the yoke of the bolt.

Claim.—The bolt B, provided with the yoke C at its inner end, in combination with the spring D and hub E, having the button *m* attached and fitted in the yoke C, the above parts being placed in a case A, and all constructed and arranged as and for the purpose set forth.

No. 32,606.—P. ANDREW, of Cincinnati, O.—*Improvement in City Railways.*—Patent dated June 25, 1861.—This invention consists in constructing a double-track railway upon a frame-work secured to the top of a single row of iron posts placed in bed-plates in the outer part of the sidewalk. The propelling apparatus is stationary, and is made to operate a shaft carrying a rope attached to the cars. When the end of one rope is reached another rope and engine are arranged to take the car from the end of the first reach and transfer it to the second, and so on.

Claim.—First, the arrangement of a quadruple track upon a single row of pillars provided with cross-arms for suspending the cars therefrom, as set forth.

Second, also the arrangement of the guide rails E, to obviate the necessity of using flanges on the car wheels, in the manner and for the purpose set forth.

Third, the arrangement and combination of levers K and L, for holding the propelling rope firmly against the groove of the wheel I.

Fourth, operating the car or cars by a succession of endless ropes, so arranged that on leaving one endless rope the car detaches itself therefrom and attaches itself to that of the next succeeding reach in the manner and for the purpose set forth.

Fifth, the combination of the gear apparatus O P Q with rope Z and bar R, for attaching and detaching the cars from the propelling ropes.

Sixth, the arrangement and combination of wheel S and band T, as described and for the purpose set forth.

No. 32,607.—NATHAN BARRETT, of New York, N. Y.—*Improvement in Pumps.*—Patent dated June 25, 1861.—This pump is designed to lift only the amount of water it discharges, thus avoiding the weight of the whole column of water as in ordinary pumps, by means of two cylinders connected to the ends of a walking beam, the piston-rod being connected by suitable gearing and levers, so that one cylinder shall balance the other, and by oscillating the beam the pistons will at the same time be operated and discharge the water from the upper ends of the cylinders.

Claim.—The two pump cylinders D D, attached to the ends of a walking beam B counterpoised thereon, and having their piston-rods F′, connected by levers and gearing or segments, in such a manner that the pistons will be operated automatically by the oscillating of the beam B, and all arranged to operate as and for the purpose set forth.

No. 32,608.—L. A. BEARDSLEY, of South Edmeston, N. Y.—*Improved Portable Crane.*—Patent dated June 25, 1861.—The frame of the carriage on which the crane is mounted consists of a semicircular way projecting out in the rear of the axle. The shaft of the crane-frame is stepped in a bearing in the central bar of the carrying-frame as to turn freely on its axis. When the article to be raised reaches the desired height, the crane arm is swung round by means of a brace guided by the semicircular way, and the article can be deposited where required.

Claim.—The combination of the windlass J, circular way A, and arm or brace G, constructed and operated substantially as shown, with each other and with the crane D E, all in the manner and for the purpose shown and described.

No. 32,609.—DAVID BELL, of Buffalo, N. Y.—*Improved Screw Propeller.*—Patent dated June 25, 1861.—This invention consists in casting the hub and blades separately, and connecting them together by means of wrought-iron arms projecting from the hub at right angles to the shaft and passing through corresponding sockets formed at the inner ends of the blades, the latter being secured to the hub by nuts screwed upon the ends of the arms, so that, should one or more blades be broken, they may be replaced by new ones. The shoulders upon the blades are cut away, so as to leave dovetail spaces between them upon opposite sides of the arm; in these spaces are placed wedges having a nut and screw-thread upon their outer ends, by means of which the pitch of the blade may be readily increased or diminished.

Claim.—First, the socket F, formed on the back of the blade, substantially as and for the purpose set forth.

Second, the wrought arms D, connected to the hub in the process of casting, in combination with the removable blade, substantially as described.

Third, the combination of the wedges *j*, with the dovetail spaces between the shoulders on the hub and blade, for the purpose of changing the pitch of the wheel, substantially as described.

No. 32,610.—B. C. BIBB and G. F. NEEDHAM, of Baltimore, and G. W. DORSEY, of Port Republic, Md.—*Improved Apparatus for Curing Tobacco.*—Patent dated June 25, 1861.—This invention consists in the combination of a furnace surrounded by a jacket for forming a hot-air chamber, a direct draught-pipe and a hot-air distributing pipe, to be arranged in a barn or other building in which tobacco is dried or cured.

Claim.—The combination and arrangement of a furnace A, a hot-air jacket B, with or without evaporating pan on its top, heating pipes G G, direct draft-pipe D, and hot-air distributing pipe H, for the purpose of drying tobacco in a barn or other building, substantially as set forth.

No. 32,611.—G. G. BISHOP, of Norwalk, Conn.—*Improvement in Machines for Making Felt Cloth.*—Patent dated June 25, 1861.—The inventor says: The carrier-combs in this machine are to consist of as many as may be found necessary to take and support the web of weft in a horizontal position in its passage across the warp and until it is delivered upon and received by two faller-combs, one of which is arranged at either end of the machine to receive and deliver the sheets of weft upon the warp, edge to edge. The carrier-combs are placed upon ways or guides and propelled thereon in their circuit by four alternating screws, two placed at each side of the machine. The screws being uniform and steady in their motion, propelling the carrier-combs upon the permanent ways or guides, the sheets of weft are conveyed and deposited upon the warp in an unbroken condition.

Claim.—First, the carrier-combs N N2 and parts attached thereto, or equivalents, in combination therewith, to constitute the said carrier-combs, as a complete device for the purpose, substantially as set forth.

Second, the use of the carrying-screws J and L, having attached thereto cams S and V, for the purposes specified, and traverse rails T and U, in combination with the carrier-combs N and N2, and parts attached thereto, or equivalents, substantially as set forth, for the purposes described.

Third, also the use of the triangular grooved cam X, in combination with the carrier-combs N and N2, and parts attached thereto, substantially as described, and for the purpose set forth.

Fourth, also the use of the pin R, in the back of the carrier-comb N2, in combination with the weighted lever Q′ and faller-combs P and P, for the purpose substantially as described, and for the purpose of operating the faller-combs, as set forth.

No. 32,612.—R. BLACKWOOD, of Philadelphia, Pa.—*Improved Hydraulic Jack.*—Patent dated June 25, 1861.—The bottom of the main cylinder consists of a disc which screws into it and has a tube fixed perpendicularly through its centre, with a screw thread around its projecting lower end, whereby the part in which are the ways, *o o*, and the seats of the valves I and H can be attached or detached by means of a screw nut. The injecting cylinder and the part D′, containing the ways and valves, are cast in one piece. Two openings, fitted with screw plugs, are provided in the part D′, directly above the valves, through which the latter can be inserted or taken out as desired.

Claim.—The construction and arrangement of the cylinder D and the valve seat part D′ together, in the manner described, and in adjustable combination with the disc *m*, which forms the removable bottom of the cylinder B, as specified, the said part D′, containing the valves G H I, and the ways *o o*, all constructed and arranged together so as to be readily connected or disconnected, as specified, and to operate substantially in the manner described.

Also, making the open recess *x*, in the hand lever F, so as to operate, in combination with the pin *w*, in the manner described, for the purpose of allowing greater facility in connecting or disconnecting the said parts, and also for the purpose of enabling the operator either to avoid, or to operate the stem K, by means of the said lever, as described, as occasion may require

No. 32,613.—F. B. BLANCHARD, of Brooklyn, N. Y.—*Improved Steam Boiler.*—Patent dated June 25, 1861.—The feed water heating vessel is arranged above the superheating vessel, and their sides are connected in such a manner as to form a shallow chamber between their upper and lower tube sheets, respectively, and the two vessels so connected are fitted into an opening in the top of the smoke-box in such a manner that, except while the damper is open, none of the gases can pass from the smoke-box to the chimney without first passing through the tubes of the superheating vessel, then through the intermediate chamber, and afterward through the tubes of the feed water heating vessel.

Claim.—The arrangement of the upright tubular superheating vessel F, upright tubular feed water heating vessel G, and interposed chamber *b*, in combination with each other and with the otherwise separated smoke-box D, and chimney-base E, substantially as specified.

No. 32,614.—F. B. BLANCHARD, of New York, N. Y.—*Improvement in the application of Blowers to Furnaces of Locomotives.*—Patent dated June 25, 1861.—This invention consists in furnishing the blower shaft with friction pulleys or rollers to work in contact with the driving or other wheels of the locomotive, the said shaft being arranged in bearings movable towards or from the axis of the wheels, under the control of levers, for the purpose of bringing the blower into or out of operation as desired.

Claim.—First, the combination of the movable bearing or bearings *b*, of the fan shaft, the friction roller or rollers G, and the lever or levers H, the whole applied relatively to the driving or other wheels of the locomotive, and operating substantially as specified.

Second, the regulating valve *f*, applied and operating in the trunk of the blower, under the control of the engineer, substantially as specified.

No. 32,615.—HORACE BOIES, of Hamburgh, N. Y.—*Improvement in Washing Machines.*—Patent dated June 25, 1861.—This invention is explained by the claim and engraving.

Claim.—First, a series of rollers C D, supported in two rectangular frames E F, which rollers and frame constitute two movable rubbers, the one being supported upon the other, in combination with mechanism for transmitting the said rubbers, alternate and simultaneous movements in opposite directions, and in parallel planes for the purposes and substantially as described.

Second, the arrangement of the bars Q, including slots *r*, and spring arms S, including sheaves S', with incline slot *u'*, spring U, and lever T, so that the downward movement of the lever T will bring the spring arms into such position as to cause the sheaves to bear with a due amount of pressure upon the rubber frame E, while the rubbers are in motion, and so that said spring arms will withdraw automatically from such position when the pressure is removed and allow the rubber to be turned up into a vertical position, for the purposes substantially as described.

No. 32,616.—D. M. BOYD, of Indianapolis, Ind.—*Improved Tilting Device in Shingle Machines.*—Patent dated June 25, 1861.—Secured to one end of a vibrating block table is a lever extending to the adjustable plane upon which one end of the lever rests. To the outer end of the frame is secured a spring, to which is fastened a trigger, which latter is held in its forward and backward positions by springs, by means of which the position of the block table is alternately changed so as to hold the table on that diagonal line to the edge of the knife required to give the shingle its proper taper, and cut at either end, alternately, the tip and but of the shingle.

Claim.—The horizontal adjustable plane F, with the lever V, together with the spring X and the trigger P, with its appendages, the coil spring S and the scroll spring O, when these parts or their equivalents are arranged substantially in the manner and for the purpose set forth; the object and nature of the invention being to secure the tilting of the block table of the shingle machine at the proper moment, and to avoid any change of the table during the time the shingle is being cut.

No. 32,617.—MARTIN COLTON, of Sardinia, N. Y.—*Improved Spokeshave.*—Patent dated June 25, 1861.—The stock of the shave is provided with an adjustable cam face journaled at each end, that part of the face which bears upon the work having an expanding curvature commencing at the edge of the knife and tangent to the cylindrical part. By adjusting the cam relatively to the knife, the latter may be readily adapted to surfaces of a greater or less curvature.

Claim.—The combination of the adjustable cam face C with the stock A and knife B, arranged and operating for the purposes and substantially as set forth.

No. 32,618.—JOHN F. CORY, of New York, N. Y.—*Improved Bit-Stock.*—Patent dated June 25, 1861.—Interposed between an ordinary bit and stock is a case in which is a double universal joint so arranged as to allow of a hole being bored near the wall or other fixed object which would interfere with the use of an ordinary bit-stock, and also to permit the angle of the stock to be varied at will while in operation.

Claim.—The combination of the case H with the shank G and socket C, by means of the universal joint, in the manner and for the purposes set forth.

No. 32,619.—ABNER CUTLER and N. JENKINS, of New York, N. Y.—*Improvement in Toy Pistols.*—Patent dated June 25, 1861.—This invention is explained by the claim and engraving.

Claim.—First, so constructing a toy pistol that the projectile will be thrown by a direct blow of the hammer, substantially as described.

Second, casting the body—that is to say, the barrel and the stock—in two similar parts, each representing exteriorily one-half of the body, and each having interiorly a groove, which, when the two parts are brought together, forms the bore, and having also appropriate receptacles for the mechanism, as set forth.

Third, the spring-piece *n*, or its equivalent, for retaining the bullet, substantially as described.

No. 32,620.—A. W. DEWEY, of Boston, Mass.—*Improvement in Water Elevators.*—Patent dated June 25, 1861.—Secured to an endless chain, which passes round a series of bent arms arranged upon a shaft, is a series of buckets of equilateral form, which in descending strike the water in such a way as to insure their filling. Attached to the outer edge of a spout are two bent wires acting as trippers, which cause the buckets, as they rise, to be completely inverted and thus discharge their contents.

Claim.—My improved water elevator, having its separate parts, viz: its wheel C, bent arms *a a*, &c., chain D, buckets E E, &c., and the cams or trippers H H, constructed and arranged in relation to each other, and so to operate together, substantially as shown and described.

No. 32,621.—A. K. EATON, of New York, N. Y.—*Improvement in the Process of Manufacturing Malleable Cast Iron and Steel, and in the Deoxydizing of Iron Ores.*—Patent dated June 25, 1861.—This invention is explained by the claim.

Claim.—First, the use of carbonic acid for the purpose of removing carbon from cast iron in the production of malleable iron or steel, substantially as described.

Second, the use, in combination with the decarbonizing processes, of the carbonic oxyd generated by such processes in the reduction of iron ore, substantially as described.

No. 32,622.—H. N. FRYATT, of Belleville, N. J.—*Improvement in Decolorizing Syrups.*—Patent dated June 25, 1861.—This invention is explained by the claim.

Claim.—The use of bone black or any other substance capable of decolorizing fluids, assisted by centrifugal force, as in the ordinary centrifugal machine, as a mode of and for the purpose of decolorizing saccharine juices, syrups, or sugar solutions passed through it.

No. 32,623.—MATHEW GILL, of Battle Creek, Mich.—*Improvement in Life or Safety Ships.*—Patent dated June 25, 1861.—The two hulls which compose this vessel are made separate and distinct from each other, and are connected and secured together by means of cross-timbers, braces, and rods in connexion with levers and rack-bars. Both are provided with keels, and in case of any damage to the lower hull it is designed to loosen it from the upper one, which latter then floats by itself.

Claim.—First, the employment of the two hulls A and B, when connected and secured together, as described, the timbers of the upper hull projecting down externally and internally over the upper edge of the lower hull, for the purpose of keeping the upper in proper position upon the lower, substantially as set forth.

Second, the arrangement of the rods *a a a a*, the cross-timbers *d d*, and the braces *c c c c*, in the manner and for the purpose set forth.

Third, the employment of the levers J J, rack-bars H H, as constructed, when used in connexion with the rods *a a*, as and for the purpose described.

No. 32,624.—J. W. HARDIE, of New York, N. Y.—*Improvement in Needle-Setter and Threader for Sewing Machines.*—Patent dated June 25, 1861.—This instrument consists of a stock or principal piece, a gauge-piece, and two spring-clasps. The gauge-piece is made adjustable on the stock, so as to adapt it to different sewing machines, having different sized needles. The spring-clasp C adapts itself to the size of the needle, and holds it in a groove on one side of the stock, for insertion in the needle-bar. The stock has another groove in the opposite edge covered by a broad spring-clasp D, in which is a hole opposite the threading-hole in the stock, and between which holes the eye of the needle is placed and the thread readily inserted.

Claim.—The needle-setter provided with an adjustable gauge, to adapt it to different sewing machines and lengths of needles, and in combination therewith, in one single and complete instrument, the needle-threader, so arranged as to adapt it to different forms and sizes of needles, substantially in the manner and for the purposes specified.

No. 32,625.—L. A. HOFFMAN, of Prussia.—*Improved Galvanic Metal Friction-Brush.*—Patent dated June 25, 1861.—This invention is explained by the claim.

Claim.—As a new article of manufacture, the described electro-galvanic metal friction-brush, the same consisting of a stock containing a series of copper and zinc plates, arranged alternately, and having felt or other suitable absorbent interposed, as specified, in combination

with the curved leather strap, studded with rows of pins of plated silver wire, and the curved zinc plate at the back thereof, the whole being constructed and arranged substantially in the manner and for the purposes set forth.

No. 32,626.—L. P. JENKS, of Boston, Mass.—*Improved Machine for Detaching the Short Fibres from Cotton Seed.*—Patent dated June 25, 1861.—Secured to a rotating shaft within a cylindrical casing is a circular plate, provided with abrading perforations, which plate may be of a plane or concave surface. Opposite to this revolving plate is a corresponding plate, which does not revolve, but is caused to move towards the revolving plate by means of a lever on the outside of the casing, and operating a central shaft attached to the plate. The cotton seed is placed between the two abrading plates, and while one plate revolves the other is moved gradually nearer to it by means of the lever, the apertures in the plate allowing the larger portion of detached fibres to pass out, which are then sucked through pipes by means of a fan-blast, and discharged from the machine, the seed being freed from the attached fibre.

Claim.—Detaching the short fibres not now removed by the cotton-gin from cotton-seed by means of a machine constructed and used substantially as described and set forth.

No. 32,627.—GILBERT JESSUP, of Chapinville, N. Y.—*Improvement in Seeding-Machines.*—Patent dated June 25, 1861.—This invention consists in a method of constructing and operating the seeding-rollers so that fine and coarse seed may be sown from the same hopper, and the seed at the same time be prevented from breaking or crushing.

Claim.—The combination of a seeding-wheel, having a tooth-face and channelled side, with the casting F G or holding-frame, with two seed entrances, for the purpose of sowing fine or coarse seed from the same hopper, substantially as described.

No. 32,628.—DAVOUST KERN, of York, Pa.—*Improved Process of Preparing the Flanking of Leather for Soling*—Patent dated June 25, 1861.—The process claimed in this invention consists in placing the strips of the flanking of leather in heated water until softened, when they are taken out and thoroughly worked or rubbed. They are then pressed between two heated metallic plates, when they are allowed to cool, the object being to render them susceptible of packing and compression without spreading, so that they become solid with uniform surfaces.

Claim.—The prescribed manner or process of treating or preparing the flanking of all and every kind of leather used for soling boots, shoes, &c.; also for belting, likewise for cards, whether machine, hand, or otherwise, thereby rendering it useful, substantially in the manner specified, described, and set forth.

No. 32,629.—CHARLES KORN, of Meriden, Conn.—*Improved Machine for Dressing Leather.*—Patent dated June 25, 1861.—In the frame of the machine are journaled a drum and a number of rollers, around which is stretched an endless belt carrying knives, which are secured to a frame projecting laterally on each side of the belt. The knives are held to their work by a presser formed with guides to receive and guide the ends of the knife frame, and depressed with a greater or less force by means of a system of levers operated by a treadle. Pivoted adjustably to the bed of the machine is a bar S carrying a piece of leather or other suitable substance for cleaning the knives at every revolution; this bar is pressed forward by a spring. The bench on which the leather is placed is secured to a knife, which is pivoted to a slide, and beneath the knee is arranged a slide which, in connexion with a nut, serves to secure the bench at any desired angle.

Claim.—First, the combination of the treadle M, levers L, and presser K, the latter being constructed with guides *k k'*, and employed in connexion with a knife or scraper frame I, attached to an endless belt G, in the manner and for the purposes set forth.

Second, the pivoted spring clearer S *s* T, constructed substantially as shown and described, and employed to clean the knife during its continuous motion, as explained.

Third, the combination of the pivoted knee *n*, wedge R, and slide O, for adjusting the bench N, as explained.

No. 32,630.—JACOB KUHN, of Centreville, Pa.—*Improvement in Machines for Hulling and Cleaning Clover Seed.*—Patent dated June 25, 1861.—The teeth of the cylinder are formed on steel plugs, which have double bevelled rectangular heads, the upper surfaces having V-shaped grooves and teeth or edges cut in or on them parallel with each other. These plugs are placed radially upon the cylinder and arranged in four parallel series. The inner side of the concave consists of alternating bevelled ridges of double oblique teeth and deep narrow grooves to correspond with the apexes of the cylinder plugs. The hopper is constructed with two distinct apartments opening respectively to the hulling and to the cleaning apartments, so that any chaff found among the hulled seed may be separated without passing the whole again through the huller.

Claim.—First, constructing the teeth *n n*, of the cylinder A, in the manner or form set forth and described, the same being arranged thereon in relation to each other in the manner specified.

Second, constructing the inner side of the concave B, with the ridges *o o* of teeth, and the grooves *p p*, between the said ridges, as set forth and described, and for the purpose of

receiving and operating in combination with a rotating cylinder provided with the teeth *n n*, constructed substantially as described.

Third, making the hopper with the two distinct apartments E E', as set forth, the apartment E being fitted with the adjustable slide *r*, for regulating and allowing the discharge of the contents of the said apartment only into the screen carrier below, whilst the apartment E' communicates only with the huller, as and for the purposes specified.

No. 32,631.—A. LEBKUCKER, of Belleville, Ill.—*Improvement in Lubricating Compound.*—Patent dated June 25, 1861.—The nature of this invention is explained by the claim.

Claim.—The lubricating compound derived from the use of rosin oil, muriatic acid, zinc, lime, olive oil, and water, in the manner herein set forth.

No. 32,632.—JOEL LEE, of Galesburg, Ill.—*Improvement in Water Elevators.*—Patent dated June 25, 1861.—On the crank shaft is an enlargement having a groove in which is fitted a slotted lever, the upper end of which is connected with the brake by a chain passing over a pulley. By moving the crank on the journal it becomes disengaged from a pin in the journal so as to unclutch it before the catch is raised from the ratchet, which prevents the backward motion of the crank as the bucket descends. A spring acting on the lower end of the lever brings the slot in the end of the crank in contact with the pin, thus reclutching it, and the catch at the same time falls into the ratchet by its own weight.

Claim.—First, the slotted lever N, in combination with the brake P, for the purpose of unclutching the crank, as described.

Second, the combination and arrangement of the pawl O, and brake P, as described, and for the purpose set forth.

Third, the spring R, in combination with the slotted lever N, for the purpose of clutching the crank and raising the brake from the catch, thereby permitting it to fall into the ratchet as described.

Fourth, in combination with the foregoing enumerated devices a horizontal bail or hoop placed at or near the top of the bucket *k*, for the purpose of preserving the equilibrium of the bucket, and affording convenience in dipping small quantities of water therefrom when desired, as described.

No. 32,633.—H. S. LEWIS, of Chicago, Ill.—*Improvement in Processes for Refining Lard.*—Patent dated June 25, 1861.—The pan is constructed with a double bottom inclining downwards from the sides to the centre. This double bottom connects with a steam and a cold water pipe, provided with suitable cocks for introducing the steam or the water for heating or cooling the contents of the pan. Attached to the bottom of the pan are a series of pipes provided with cocks, and communicating severally with the pan and the double bottom, for the purpose of letting off the contents of either as may be desired.

Claim.—The pan having a double bottom, inclining downwards from the sides towards the centre, and with an arrangement of steam and water-pipes C D D, and cocks E F G H I I, as herein described.

No. 32,634.—ISAAC LINDSLEY, of Providence, R. I.—*Improvement in Looms for Weaving Hair Cloth.*—Patent dated June 25, 1861.—This invention consists in confining the lengths of hair or other weft which, by a previous operation, have been arranged parallel to each other in a bunch or compressed body at one end, and in reciprocating or otherwise changing the position of the said compressed weft with respect to the device employed to select single lengths therefrom, so that a different portion of the compressed weft is presented to said device at each stroke or motion made by it, or at each successive beat of the lay, for the purpose of insuring greater certainty in selecting and separating a length of the weft from the compressed mass or bunch. A notched bevel-pointed lance is used which, being plunged into the compressed hair or weft at right angles to the parallel lengths, selects therefrom a single length, and in connexion with a yielding pad or arm carries the length thus selected to the proper position, and holds the weft in the notch of the lance until it is seized and detached therefrom by the hook, nippers, or other device, used to insert the weft in the warp or web. The said lance is caused to repeat its efforts to secure a hair or length of the weft several times during a single beat of the lay, by making said repeating action dependent upon the failure in the first and succeeding ineffectual movements to secure a hair or length by any effective automatic mechanism, which, in the absence of the hair in the notch of the lance, permits its movements to continue, and stops the same when a hair or length of weft has been secured.

Claim.—First, confining and compressing the lengths of weft at one end, and reciprocating or otherwise changing the position of the compressed position with respect to the device used to select a single length therefrom, and present the end thereof to the hook, nippers, or other device, used to insert the length of hair or other material in the web, in the manner and for the purpose substantially as specified.

Second, the lance *k*, or its equivalent, substantially as described, for the purpose specified.

Third, the yielding pad *i*, or its equivalent, in combination with the lance *k*, or its equivalent, arranged and operating substantially as described, for the purpose specified.

Fourth, the mode of operation substantially as specified, by means of which a single length of the weft, or several lengths, are selected and separated from the compressed mass or por

tion of the weft and presented to the hook, nippers, or other device used to insert the weft in the warp, substantially as specified.

Fifth, the mode of operation substantially as specified, by means of which, in case the lance or equivalent device fails, to select a length of the weft from the compressed mass, its efforts to do so are in consequence repeated several times during a single beat of the lay, substantially as specified.

No. 32,635.—DENNIS G. LITTLEFIELD, of Albany, N. Y.—*Improved Fire Pot for Coal Stoves.*—Patent dated June 25, 1861.—This invention consists in constructing the grate bars of a base-burning fire pot, of soapstone, fireclay, or other non-combustible material, secured between an upper and lower ring or frame of iron.

Claim.—In the construction of base-burning stoves as arranged and fitted substantially according to the specification in my letters patent of January 24, 1854, the combination of the supplying cylinder M with the rings or framing U R, constructed as described in this specification, so as to admit of the use, removal, and replacement of separate bars of soapstone, fireclay, or analogous heat-resisting substances.

No. 32,636.—JOHN MCCORMICK, of Madison, Ind.—*Improved Boiling Apparatus.*—Patent dated June 25, 1861.—This invention consists in the construction of a vessel of sheet-copper, having between its inner and outer ports an air-tight chamber nearly filled with water, the vessel being hermetically sealed, and the chamber thus constituting a fixed permanent, unevaporating part of the vessel. The inventor says: the strength of the vessel is to be such as to retain the water and air in the air-tight water-chamber, under a pressure of about five hundred pounds to the square inch, the water being at a temperature of about four hundred and sixty-seven degrees Fahrenheit.

Claim.—An air-tight water-chamber containing water or its equivalent, said chamber being hermetically sealed, thereby retaining its contents, thus constituting them a fixed, permanent, unevaporating part of the apparatus, as set forth and for the purposes specified in the foregoing specification.

No. 32,637.—SAMUEL METZLER, of Naperville, Ill.—*Improved Belt Coupling.*—Patent dated June 25, 1861.—This invention consists in securing the ends of a pulley belt, which ends are turned up at right angles between two serrated metal plates rounded at their lower inner edges and fastened together by means of screw bolts.

Claim.—The combination with the ends of a pulley belt C, of the two metal plates A A, and the screw-bolts B B, the said parts being constructed and applied in the manner and for the purpose described.

No. 32,638.—GEORGE A. MITCHELL, of Turner, Me.—*Improvement in Boot Heels.*—Patent dated June 25, 1861.—This invention consists in securing the outer and inner soles and the upper between them firmly together at the heel portion of the shoe or boot by a pad of metal or other material covering this portion of the soles, and attached thereto by screws or rivets, and to which the outer portion of the heel is secured.

Claim.—The pad E, united to the upper and soles by screws or rivets, for securing the heel portion of the boot or shoe firmly together, as described, and for receiving the heel, to be thereon secured for the purpose set forth.

No. 32,639.—PORTER MITCHELL, of Greenfield, Mass.—*Improved Heating Apparatus.*—Patent dated June 25, 1861.—Attached to the exit flue of a stove or furnace is a metallic drum, within which are two or more inclined plates so arranged as to cause the products of combustion to be rejected back and forth between the plates and the inner surface of the drum. At the inner junction of the inclined plates is a damper for preventing the direct passage of the smoke, &c., to the chimney.

Claim.—The combination with and arrangement in relation to each and every pair of deflectors of a damper, whereby direct communication of the fire chamber with the exit flue may be established or not at pleasure.

No. 32,640.—H. W. MORSE and H. A. MORSE, of Canton, Mass.—*Improvement in Tobacco Cutters.*—Patent dated June 25, 1861.—This device consists of two toothed sectors and two curved racks, a stationary and a movable cam with their rests and guides, combined with a lever and knife carrier so as to give considerable power to a draw cut.

Claim.—An improved tobacco cutter, as constructed, with two curved racks *a a'*, two toothed sections *b b'*, and the stationary and movable cams H I', and rests T I, arranged and combined with the lever D, frame B, and the knife carrier C, and so as to operate substantially as described.

No. 32,641.—H. A. and L. B. MYERS, of Elmore, Ohio.—*Improvement in Grain Drills.*—Patent dated June 25, 1861.—Attached to the under side of the floor of the seed-box is the base of a conical shelf, which, in connexion with the piston when depressed, forms a pocket into which the seed is discharged, from which the seed is in turn discharged on the return motion of the piston, by which means a uniform and accurate measure is secured.

Claim.—The conical shelf *v*, with the up and down movement of the piston, as and for the purpose described.

No. 32,642.—MARK S. PALMER, of New Bedford, Mass.—*Improved Machine for Filling and Folding Medical Powder Papers.*—Patent dated June 25, 1861.—This invention relates to improvements in machinery for preparing strips of paper, filling them with certain quantities of powder, and folding up the papers containing the powders in a proper shape for medical purposes. The size of the parts which receive and fold the papers may be varied so as to adapt the machine for folding papers of different size.

The construction of the mechanism does not admit of a brief description.

Claim.—First, the feed-roller D, bed plate E′, spring pressure plate D2, and knife D3, in combination with the reciprocating fingers or pins *e*2 *e*2 working in slots through the lower plate E, all arranged with relation to the folding box, and operating substantially as herein described.

Second, the folding box, constructed with jointed folding sides F F′, operating as described, in combination with the reciprocating bottom plate E2, and its side bottom plates *e*4 *e*4, as set forth.

Third, the pressing or creasing block H, operating between suitable guides *h h*, when said block is arranged in relation to the folding box, and operates as described, to crease the paper preparatory to the folding operation; and, in combination with creasing head, the the holding fingers *n n*, or their equivalents, operating substantially as and for the purposes set forth.

Fourth, in connexion with creasing head H, the plunger J; and in combination with this plunger the hollow stem or tube I, tube *m*, case *l*, reciprocating measuring block M, and hopper *b*′, all arranged and operating conjointly, substantially as herein described.

No. 32,643.—GEORGE PARR, of Buffalo, N. Y.—*Improved Camp Chest.*—Patent dated June 25, 1861.—The chest is made in two parts, hinged together, and provided with folding legs, arranged in such a manner as to readily convert the chest into a table.

Claim.—A camp chest constructed in two parts A and B, having folding legs D hinged thereto as shown at *e*, with springs F, (or hooks,) for holding the legs in a perpendicular position, for the purposes and substantially as described.

No. 32,644.—R. H. PECK and E. M. GIFFORD, of Wolcott, Vt.—*Improved Tub and Pail Machine.*—Patent dated June 25, 1861.—Fitted to a socket upon one end of a spindle is a mandrel resting on a proper bearing, and with its outer end of a proper size and form to receive a tub or pail. Supported in the main frame is a swinging frame carrying two knives which cut the ends of the tub to the proper length. Rests are provided at each end of the machine for supporting the necessary tools used while the parts are rotating.

Claim.—The arrangement of the mandrel G, the swinging frame H, carrying the knives *h* and *h*, the clamp F L, and the rests I and N, substantially as and for the purpose set forth.

No. 32,645.—C. H. PERKINS, of Providence, R. I.—*Improved Machine for Making Horse-shoes.*—Patent dated June 25, 1861.—This invention relates to machinery for making horse-shoes, by which the bar is hammered and drawn into proper shape by a succession of blows, and it consists in an arrangement of devices for fashioning the shoe from a bar of metal, and a means of arresting the fall of the hammer at certain periods, and thereby preventing the "half blow" which is incident to the operation of all hammers worked by a tappet shaft or "wild cat."

Claim.—First, the combination and arrangement of a separate hammer and creaser with a single helve, so that while one is at a state of rest and disconnected from the helve, the the other shall be connected therewith and capable of being operated by it independently of the other, substantially as described.

Second, the use of a separate hammer and creaser capable of acting independently of each other in combination with the instruments for giving the first bend to the shoe blank, substantially as described.

Third, constructing the face of the hammer with a raised rim, as described, for the purpose of giving shape to the shoe, and also for facilitating the escape of the scale as it is formed.

Fourth, the combination of the prongs 26, and scraper 27, or their equivalents, for the purpose of removing the shoe after it has been finished, applied and operated substantially as described.

Fifth, the mode of operation substantially as specified, by means of which the prop is removed from the hammer helve to permit the operations of plating and creasing the shoe to be performed, and at such times relatively to the revolution of the wild-cat as to prevent a half blow from the hammer, as set forth.

No. 32,646.—T. W. PORTER, of Bangor, Maine.—*Improvement in Ox Yokes.*—Patent dated June 25, 1861.—The yoke is formed of two pieces, the lower one of which has a greater curvature than the other. Between the ends of the yoke are pieces of wood, the grain of which is placed transversely to that of the two curved pieces. A sliding bolt is secured to the upper part of the yoke, and serves to hold the bow.

Claim.—First, the pieces A and B, in the construction of ox yokes, when arranged substantially as described.

Second, forming the ends of yokes of two or more layers of wood, the grain or fiber of one or more layer or layers being placed transversely to that of the other or others, substantially as described.

Third, forming that part of the yoke which bears upon the neck of the ox, by bending the wood so that the direction or curvature of the grain or fiber shall conform to the curvature of said part of the yoke.

Fourth, the bow holder or pin, when used in combination with the yoke, substantially as described and for the purpose specified.

No. 32,647.—J. A. PRESTON, of Boston, Mass.—*Improvement in Bottle Stoppers.*—Patent dated June 25, 1861.—The valve and its stem consists of a glass ball blown upon the top of a rod, which is then inserted in the mouth-piece of the bottle, the lower end of the rod being heated, so that it may be bent and prevented from falling out.

Claim.—A bottle stopper made with its valve and valve stem entirely of glass, as set forth for the purpose specified.

No. 32,648.—GEORGE RACE, of Norwich, N. Y.—*Improvement in Water Elevators.*—Patent dated June 25, 1861.—This invention consists in the employment of a ratchet placed loosely on the windlass shaft, in connexion with a wheel attached permanently to the windlass shaft, and enclosed within a barrel attached to the ratchet, said wheel being acted upon by a spring and an eccentric and a brake, so arranged that the bucket may be elevated by the rotation of the crank, and released at any time, so as to descend as gradually as may be desired and suddenly at any desired point.

Claim.—The ratchet C, with barrel *d* attached, placed loosely on the windlass shaft *a*, in connexion with the wheel E on the windlass shaft *a*, and the spring F and eccentric and brake G *g* on lever H, all arranged substantially as and for the purpose set forth.

Also, the particular arrangement of the spring F, substantially as shown and described, whereby the spring E is made to perform the double function of a friction brake and spring. as set forth.

No. 32,649.—GEORGE M. RHOADES, of Hamilton, N. Y.—*Improvement in Machines for Trimming Teasels.*—Patent dated June 25, 1861.—The object of this invention is to remove the thick leaves immediately at the base of the bur of teasels, used for raising the nap on the surface of cloth, which is effected by means of two tubes serrated at their upper ends, the inner one of which is made to revolve, and the outer made adjustable as to its elevation.

Claim.—First, the employment of a revolving tube *c*, provided with one or more teeth as described, and for the purposes set forth.

Second, surrounding tube *c*, with an adjustable outer tube I, substantially in the manner and for the purposes set forth.

Third, retaining the outer tube I at any desired degree of elevation by means of check nuts H and springs F, in combination with rods *g*, substantially as represented and described.

No. 32,650.—W. B. RHOADES, of South Dedham, Mass.—*Improved Clothes Wringer.*—Patent dated June 25, 1861.—To the upper end of each stanchion is hinged a lever extending across and projecting over the machine, and over each projecting end is passed an India rubber band attached to a pin on the side of the stanchion. The portion of each lever near the hinge is hollowed out, and rests on the sliding bearings of the upper roller, by which means a considerable range of motion is allowed to the upper roller, and adapts it to the passage of articles of different size.

Claim.—The rolls B and C, with the sliding bearings *g*, in combination with the levers D and springs *k*, arranged and operating substantially as set forth.

No. 32,651.—N. H. RICHARDSON, of Fitchburg, Mass.—*Improved Ratan Machine.*—Patent dated June 25, 1861.—A pair of auxiliary feed rolls are so arranged in advance of the scraping cutters that they may be separated simultaneously with the cutters when a stick enters, and may be swung out of the way when it becomes necessary to get at the scrapers to adjust or sharpen them. These rolls are made slightly smaller in diameter than those on the other side of the scrapers, in order that the ratan may be strained tight and kept straight at the point between the rolls.

Claim.—First, the rolls K, in combination with the rolls H upon the opposite side of the scrapers, when the former K are of slightly smaller diameter than the latter H, as set forth for the purpose explained.

Second, so connecting the scrapers with the feed rolls in advance of them by means of the connexions described, or their substantial equivalents, that they shall be simultaneously separated for the entrance of the ratan, as set forth for the purpose described.

No. 32,652.—C. W. SALADEE, of Pine island, Texas.—*Improvement in Steam Ploughs.*—Patent dated June 25, 1861.—The nature of this invention will be understood from the claim. It does not admit of a brief description.

Claim.—First, the combination of the several parts shown and described, for the purpose of combining in one machine the facilities of ploughing, sowing the seed, rolling and harrowing at one operation, as well as to perform either of these objects separate and apart from the others.

Second, the peculiar construction and arrangement of the ploughs *x* and colters Y, Fig. 1, in combination with the angle iron ring brace *u*, in the manner and for the purpose shown and described.

Third, extending the points *z* of the colters Y Y, Fig. 1, out beyond the line or circle described by the points of the ploughs, in the manner and for the important purpose set forth.

Fourth, the radius bars O O, Fig. 1, but more particularly shown in Fig. 3, shaft Q Q, shifting pinions S S, in combination with the crank-shaft L and revolving drums C C, for the purpose of regulating the advance of the machine in proportion to the cut made upon the ground at each revolution of the ploughs, and for the additional purpose of throwing out of gear either one or both of the drums C C, to facilitate the turning of the machine, as shown and described.

No 32,653.—HERMAN SCHRODER, of New York, N. Y.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated June 25, 1861.—The movable breech pin is formed with a rack on its under side, whose teeth engage with those of a segmental pinion on the end of the lever guard, by means of which the lock is cocked, and, at the same time, the breach of the barrel is released, so that it may be thrown upward to receive the charge. The movable breech has sunk in its face an annular chamber of V form in its cross sections for the reception of the charge. Shoulders are formed upon the dog to which the needle stock is jointed, to arrest the forward motion of the needle when the lock is sprung.

Claim.—First, the movable breech pin F, when operating as described, to cock the lock and lock the barrel.

Second, the movable breech pin, operating as described, in combination with the expansive annular charge chamber *f*, as and for the purpose specified.

Third, the shoulders *h* on the dog G, as and for the purpose set forth.

No. 32,654.—WILLIAM F. SHELDON, of East Mendon, N. Y.—*Improvement in Melodeons.*—Patent dated June 25, 1861.—The object of this invention is to enable the players of little experience to play in different keys, and the invention consists in a movable key-board so applied and combined with reeds that, by the aid of a fixed scale in front of the key-board, it may be set to play in any desired key.

Claim.—First, a movable key-board, so combined with the reeds of a melodeon, or the equivalent parts of any other instrument, that, by the aid of a fixed scale, it may be set to play in different keys, substantially as specified.

Second, combining the so-applied movable key-board with the reeds, or their equivalent, by means of interposed levers L L, applied and operating substantially as specified.

Third, the horizontal screw M, applied in combination with the movable key-board, substantially as described, to adjust it to or hold it in any desired position.

No. 32,655.—M. A. SHEPARD, of Bridgeport, Ill.—*Improvement in Water Elevators.*—Patent dated June 25, 1861.—A rectangular case is divided by a vertical central partition into two compartments, and each compartment is provided with inclined partitions, the partitions of one compartment having a reverse position to that of the other, and the compartments communicating with each other, so that by oscillating the case water may be elevated from the bottom to point of discharge at the upper part.

Claim.—An oscillating or swinging box C, divided into two compartments *c c* by a central partition *b*, and said compartments subdivided into compartments *e e'* by partitions *f f*, the compartments *e e'* communicating with each other by openings *g g'*, and all arranged to operate substantially as and for the purpose set forth.

No. 32,656.—D. H. SHIRLEY, of Boston, Mass.—*Improvement in Skates.*—Patent dated June 25, 1861.—The rear portion of the heel part of the body of the skate has cast to it on the under side a screw box, through which fits a screw having a head at its rear end. which laps over the heel part of the skate, so as to bear against the heel of the boot, and lock the skate to the heel. The forward part of the body is provided with a top cap, and a set-off at the heel has spikes which enter the front of the heel.

Claim.—First, the arrangement of the screw box to the heel-locking screw below the heel portion of the body of the skate, essentially as shown and described.

Second, securing the skate at the heel by the button or head of the heel screw, arranged and applied to gripe on or against the heel of the boot or shoe, as set forth.

Third, the combination of a heel-locking screw with a step or set-off in the body of the skate in front of the heel, and fitted with prongs or spikes to gear with the front of the heel of the boot or shoe, substantially as specified.

Fourth, the combination of the heel-locking screw, spiked set-off or step to the body in front of the heel and toe cap, all for operation together, essentially as set forth.

No. 32,657.—H. T. STANARD, of Wayne, Mich.—*Improvement in Sash Holders.*—Patent dated June 25, 1861.—This invention consists in fastening the sash by pressing any elastic substance against it by means of a lever and cam.

Claim.—The cam H, lever L, and elastic substance F, all arranged and operating as specified.

No. 32,658.—LEOPOLD THOMAS, of Allegheny, Pa.—*Improvement in Valves.*—Patent dated June 25, 1861.—The object of this invention, the nature of which is expressed in the claim, is to secure the certain and prompt opening and closing of the upper valve or valve in the plunger, which in oil wells is frequently prevented in pumps of ordinary construction, owing to the upward presure of gas issuing from the well.

Claim.—Attaching the piston-rod of lifting pumps, by which the plunger is operated, to the upper valve itself, in such a manner as that the first part of the motion of the piston-rod, either on its up or down stroke, shall be to open or close the valve, as the case may be, while the plunger itself is moved by the further stroke of the piston-rod, substantially in the manner described.

No. 32,659.—J. A. WHITNEY, of Maryland, N. Y.—*Improvement in Brakes for Vehicles.*—Patent dated June 25, 1861.—Arranged on the reach of the wagon are two levers capable of being connected together or disconnected at pleasure, one of said levers being pivoted to a longitudinally sliding bar which is connected to and moves the brake bar, and the other lever being connected to the draught-pole by means of two chains passing, one above and the other below the axletree, so that, when the two levers are connected together, the rise and fall of the draught-pole will actuate the brake bar. When the levers are disconnected, the brake bar may be operated by hand.

Claim.—The combination of the levers *g* and *h h*, their arms *g*1 *g*2 *j k*, pivoted together by loose pin *m*, connected to the brake bar E, and operated by the movements of the draught-pole D, substantially as described and shown.

No. 32,660.—W. F. WICKERSHAM, of St. Louis, Mo.—*Improved Excavating Machine.*—Patent dated June 25, 1861.—Combined with a common dumping cart is an excavating elevator consisting of a series of buckets united by an endless chain. At the rear of the main frame is secured a curved scraper, which is placed so as to gather the dirt as the machine moves forward; the dirt is then taken from the scrapers by the revolving buckets and discharged into the dumping cart, which may then be detached from the elevator and dumped. A leader may be fixed to the upper part of the frame when the machine is used for ditching, to deliver the dirt on the side of the ditch.

Claim.—The arrangement and combination of the frame C, the elevators H, the leader P, the scraper J, and the cart M, the whole to be constructed jointly, substantially in the manner described for the purpose specified.

No. 32,661.—M. D. WILDER, of Laporte, Ind.—*Improvement in Water Elevators for Cattle.*—Patent dated June 25, 1861.—This invention consists in the employment of an annular apron placed on a carriage and circular track, in connexion with a fence enclosing the annular apron, and a pump, the operating mechanism of which is so arranged that, as the carriage is moved by an animal stepping upon it, water is forced up through a tube into an annular trough, and from thence into a straight trough. On a bar connected with the annular trough is secured a glass vessel containing water, but inaccessible to the animal, and is designed as a decoy or deception-glass to entice the animal up the inclined part of the annular apron.

Claim.—First, the carriage C placed on a circular track B, in connexion with the annular apron D, frame J, fence K, and pump formed of the reciprocating tube Q, plunger R, and cylinder S, the pump being operated from the carriage C, and all arranged substantially as and for the purpose set forth.

Second, the arrangement, as shown, of the annular trough L, straight trough M, and stationary curved discharge pipe V, whereby the water is discharged into the straight trough M, the motion of the trough not interfering with the proper delivery of the water.

Third, the arrangement of the shaft E, crank pulley F, connecting rod P, collar O, and rotating tube H, substantially as shown, to serve as a means for communicating power from the carriage C to the pump.

Fourth, the employment or use of the decoy vessel N, when used in connexion with a pump and its operating mechanism, substantially as and for the purpose specified.

No. 32,662.—J. D. CUSTER, of Norristown, Pa., assignor to WM. MCNIECE, of Conshohocken, Pa.—*Improvement in Cutting Saw-teeth.*—Patent dated June 25, 1861.—Bolted upon the front of the frame are two dovetailed castings in which the plunger works. The said plunger has a slot or chamber cast in it, in which is placed the toothing punch T. In the upper part of the plunging chamber is fitted a female screw, in which the feeding screw works, so as to feed down the punch. The lower toothing punch K is held in a slot or chamber in the L-shaped casting on which the table rests.

Claim.—The combination of the plunger G G, and its long screw and long nut 4, with the

toothing punches J K, all substantially as described and shown, for toothing and setting saws.

No. 32,663.—J. E. EARLE, of Brooklyn, N. Y., assignor to Himself and SAMUEL HATHAWAY, of New York, N. Y.—*Improvement in Machines for making Tape Trimming.*—Patent dated June 25, 1861.—The nature of this invention consists in folding the tape or other ribbon, by means of pincers or folders formed of plates or wires, or their equivalents, so arranged as at the right moment to move into and clasp the tape, and, by a whole or partial revolution of the folders, to fold the tape to the required form or angle, then withdrawing, when a second pair of folders, in like manner as the first, enters and lays the second fold and withdraws, and the successive folders continuing to do so until the required folds are laid, and the web of the tape brought back to the place of beginning. A device is employed for untwisting the tape by means of a continuous revolution given to the holder upon which the tape is placed.

Claim.—The folders D E F G and H, or their equivalents, constructed and operating in the manner and for the purpose substantially as specified.

Also, the combination described of folding instruments D E F G and H, the pressers E and F′, and the continuously rotating spool-holder H′, all constructed and operating together in the manner and for the purpose set forth.

Also, in combination with a folding instrument, operating substantially as described, the carrier D′, rotating therewith, for the purpose set forth.

Also, in combination with a folding instrument D and carrier D′, a holder C′, operating in the manner and for the purpose specified.

No. 32,664.—D. R. GAMBLE, assignor to Himself and J. M. CONNEL, of Newark, O.—*Improved Washing Machine.*—Patent dated June 25, 1861.—At the lower end of the revolving shaft are secured arms upon which are arranged alternately balls and fluted rollers, and on the inside and bottom of the tub are fluted projections, against which the clothes are rubbed by the revolution of the arms.

Claim.—The special arrangement of the roller or balls *a′ b′*, with the revolving arms, in combination with the ribs or projections *g*, upon the side and bottom of the tub and cover, when used and operating for the purpose set forth.

No. 32,665.—W. R. KAY and H. E. KAY, of Westerly, R. I., assignors to Themselves and B. D. KAY, of Fall River, Mass.—*Improved Car-Brake.*—Patent dated June 25, 1861.—This invention relates to a car-brake, by which the momentum or force exerted by a car being brought to a state of rest is stored up in a spring, to be given out again in starting. Mounted loosely on the axle of the car are two drums or wheels, so connected to each other and to the axle by suitable gearing, that when the brake is applied to one to stop its motion the motion of the axle is transferred to the other through the gearing, causing it to turn in a direction opposite to that of the axle, and thereby wind up a spring. When the brake is removed from the first drum, the spring tends to rotate the second drum in the direction of the axle. This action takes place when the car is moving in either direction.

Claim.—First, the brake-wheel D, drum C, and axle *b*, so combined and connected, by means of suitable gearing, substantially as described, that when the brake is applied to the brake-wheel D, the drum C is caused to turn in a direction opposite to that of the axle, and thereby to wind up the spring L, or its equivalent, substantially as and for the purpose set forth.

Second, the ratchet levers P and P′, in combination with the pawls N and N′, and chain H, or its equivalent, so arranged that the winding of the chain on the drum C in either direction brings into play the proper pawl, as set forth.

Third, the multi-jointed strap R Z, in combination with the spring U, levers V and V′, and link *v*, the whole operating together substantially as and for the purpose specified.

Fourth, the combination of the toggle W W, the levers V and V′, the tie *v*, and the jointed or flexible strap R, substantially as and for the purpose set forth.

No. 32,666.—WILLIAM LAPE, assignor to Himself and FREDERICK R. STOW, of Troy, N. Y.—*Improvement in Ploughs.*—Patent dated June 25, 1861.—The novelty of this invention consists in the method of uniting the parts together, the inventor disclaiming "any of the parts or modes independent of the rest."

Claim.—A plough having its landside A, share B, moldboard C, and beam D, all constructed and united together in the manner shown and described.

No. 32,667.—W. G. MACKAY, of New York, N. Y., assignor to P. P. COMEN, of Bridgefield, Conn.—*Machine for Bronzing Wall-Paper, &c.*—Patent dated June 25, 1861.—This invention consists in an arrangement of feeding-rollers, brushes, and beaters, with a hopper to contain the bronzing powder, and from which this powder is suitably supplied to the sized or printed surface of the paper as the latter is drawn through a trough arranged under the hopper to receive the wash bronze. Within the endless apron are arranged two whipping-plates, used in making flock paper, and are made to strike the apron with sufficient rapidity and force to cause the flock to adhere closely to the sized figures on the paper.

Claim.—The arrangement of the trough C, bronze-distributor E, whipping-plate H, and endless apron F, when arranged and operated in the manner described and for the purpose specified.

In combination with the same, the whipping-plates K K, when arranged and operated in the manner described and for the purpose as set forth.

No. 32,668.—J. W. OSBORNE, of Melbourne, England, assignor to S. T. HOOPER, of Charlestown, Mass.—*Improvement in Photography.*—Patent dated June 25, 1861.—This invention is explained by the claim.

Claim.—First, the preparation and use, in making photolithographic transfers, of a paper prepared by applying, in conjunction with the sensitizing substances or preceding their applications, a coating of albumen to the surface of the paper, and coagulating the albumen so applied by heat, in the manner and for the purposes described.

Second, the use and application of gelatine, in conjunction with albumen, for the formation of the coating of organic matter applied to the surface of photolithographic transfer paper, which gelatine, by its swelling properties when acted upon by moisture, enables me to obtain the result described.

No. 32,669.—G. W. RICHARDSON, assignor to Himself and ROBERT GLOVER, of Grayville, Ill.—*Improvement in Harvesters.*—Patent dated June 25, 1861.—The bracket-frame consists of a metal bar bent in loop form at its back part, and having its left arm bent downward and underneath the draught-pole, the said arm extending obliquely downward, and having a finger-bar attached at right angles to its lower end. The shaft to which the sickle is attached is actuated by a series of gear-wheels connecting with the driving-wheel. The driver's seat is secured to uprights on the arm of the bracket-frame over the axle of the driving-wheel, and so balanced that the driver, by leaning back his body, will cause the finger-bar to rise.

Claim.—The arrangement and combination of the bracket-frame G, draught-pole A, and driver's seat S with the gearing D E O N and shaft M, substantially as and for the purpose set forth.

No. 32,670.—G. H. SMITH, assignor to S. O. SMITH, of Rochester, N. Y.—*Improvement in Gas Regulators.*—Patent dated June 25, 1861.—This invention is explained by the claim and engraving.

Claim.—First, the employment in portable gas regulators of a long cylindrical valve, operating as described, and moved longitudinally, by means of the back pressure of the gas upon an overcharged cushion of confined air, to the covering of which the valve is connected.

Second, attaching the valve to one leaf of a double diaphragm, or to a ring of rubber attached to the single diaphragm, substantially as and for the purposes set forth.

No. 32,671.—WILLIAM F. TROWBRIDGE, assignor to F. BINGHAM & Co., of Feltonville, Mass.—*Improved Machine for Skiving Boot and Shoe Soles.*—Patent dated June 25, 1861.—This invention consists of a machine in which a rapidly-revolving cutter-head carries suitable plane-irons or cutters to reduce the stock, and a collar made adjustable towards and from the cutter-head, by means of a screw-shaft, to regulate the thickness to which the leather is to be reduced.

Claim.—The skiving machine, consisting essentially of the revolving cutter-head F and adjustable collar K, arranged and operating substantially as described.

No. 32,672.—BERNARD ACKERMAN, of New York, N. Y.—*Improvement in Lithographic Power-Presses.*—Patent dated July 2, 1861.—The nature of this invention will be understood from the claims. It does not admit of a brief description.

Claim.—First, the manner of setting the tympan-frame N and tympan N′, gripers U′, &c., in motion without interrupting the motion of the gears K, and therefore leaving them continually geared with the racks I, substantially as described.

Second, the manner of operating the scraper Q′ by means of the cam O, attached to the revolving tympan-frame N, or part thereof, which cam is connected to the scraper-box P by means of a dovetailed pin and roller set in motion by said cam O, or its equivalent, the whole as described.

Third, the method of fastening the scraper Q′ in the scraper-box by means of the vice-shaped pieces Q.

Fourth, the manner of adjusting the bed G receiving the stone H by means of the double wedge F′ moved by a screw, so that by turning the screw forward or backward the bed G is raised or lowered. The same arrangement also used for regulating the pressure.

Fifth, the manner of carrying the sheet of paper off after the gripers U have let loose by means of the rollers *r s*, the arms *q*, and cam T, attached to the tympan-frame N, or part thereof, and operating substantially as described.

Sixth, the disposition of the double ink-fountain, two cylinders and four rollers rolling the stone, the whole disposed in reference to cylinder L, as shown and described.

Seventh, the manner of operating the carriage F by means of the two internal racks E and guides E′, the whole as described.

Eighth, the manner of operating the fly by means of the inclined slotted lever V, the roller *u*, the connecting pieces *x* and *y*, substantially as described.

Ninth, the position of the damping roller 8 behind the cylinder, in order to get a better damping of the stone, such rolling over the stone both ways, whereas, being in front of the cylinder L, it can roll but once over the stone.

No. 32,673.—AUGUSTUS ADAMS, of Sandwich, Ill.—*Improved Horse-Power.*—Patent dated July 2, 1861.—This invention consists in attaching the levers for teams so that there will be only a rotary strain communicated to the main shaft, which may be transferred to the driving pulleys by any one of three changes of gearing which give motion to three shafts at various rates of speed, according to the size of the gearing.

Claim.—The attachment of each of the driving levers to the opposite sides of the crown of the driving-wheel, in the manner described and for the purpose specified.

Also, the shifting shaft *n*, when used for transmitting the motion of either of two or more revolving shafts, substantially as and for the purpose described.

No. 32,674.—WALTER AIKEN, of Franklin, N. H.—*Improvement in Knitting Machines.*—Patent dated July 2, 1861.—This invention consists in a combination of devices to operate the rollers and take up the fabric knit by the machine, and also to stop the machine when the stitches run off the needles.

Claim.—In knitting machines the vibrating frame E, with its system of gearing and friction pulleys, for alternately operating and releasing the take-up rollers, substantially as above described.

Also, operating the belt-shifting apparatus, by means of the vibration of the take-up frame E, through the action of the adjustable pin or screw *c*, on the latch *a*, and its connexions, substantially as described.

No. 32,675.—CHARLES H. ALSOP, of Middletown, Conn.—*Improved Chuck for Boring Fire-Arm Cylinders.*—Patent dated July 2, 1861.—The object of this invention is to secure the boring of all the chambers of the rotating cylinders of fire-arms in a true circle concentric to the axis of the cylinder, by means of a certain device combined with a revolving eccentric chuck for holding the cylinder in the requisite relation to the axis of revolution of the chuck, and permitting it to be turned to drill or bore the several chambers.

Claim.—The cylindrical clamp E, with its flexible jaws *k*, conical external portion *i i*, and internally conical ring F, the lever H, and stirrup-screw J, or their equivalent, and the rigid central pin K, the whole combined and applied in connexion with the eccentric plate C of the lathe chuck, substantially as and for the purpose specified.

No. 32,676.—N. AUBIN, of Albany, N. Y.—*Improvement in Dry Gas-Holders.*—Patent dated July 2, 1861.—The gas-holder consists of two parts, the lower part being made of metal or other proper substance in the form of an inverted truncated cone closed at its lower end. The upper part consists of a flexible material corresponding in form to the lower part to which it is securely attached so as to render it gas-tight, and within which it is made to fit when the vessel is empty. Its upper part is provided with a disc of wood or metal of sufficient weight to secure a constant and regular pressure of the gas. When the holder is empty the disc on the upper part rests upon the bottom of the lower part.

Claim.—A dry gas-holder composed of a lower and rigid vessel and an upper flexible vessel attached each to the other, and constructed and operating substantially in the manner described, by the combined action of the pressure of the gas and that of a disc or weight, and this irrespective of the precise method of attaching the edge of one vessel to the edge of the other.

No. 32,677.—JEROME and GILBERT BACON, of Medina, Wis.—*Improved Washing Machine.*—Patent dated July 2, 1861.—The pounders are secured to a common crank, from which they extend in opposite directions towards the ends of the box, moving alternately in opposite directions. The boxes in which the crank-shaft is journalled slide in grooves in the side of the tub, and are held in the centre of the grooves by means of springs, so that when subjected to pressure from either side the boxes are moved in either direction.

Claim.—The arrangement of the self-adjusting sliding journal boxes D, in combination with the crank-shaft C, pounders A A, and tub B, constructed and operating in the manner and for the purpose shown and described.

No. 32,678.—CHARLES BENTZ, of Mindenville, N. Y.—*Improvement in Whiffle-tree Hooks.*—Patent dated July 2, 1861.—This device is designed more particularly for detaching tow-lines from tow-horses on canals. The end of the tow-line is attached to the cock-eye G, which is held in position by means of a lever and spring. By raising the lever the cock-eye is loosened and the tow-line released.

Claim.—The arrangement of the spring H, cock-eye G, lever F, and bed-piece B, when they are attached to the whiffle-tree A, and made to operate in the manner and for the purposes within described.

No. 32,679.—CHARLES N. BROCK, of Philadelphia, Pa.—*Improvement in Apparatus for Revivifying Bone-Black.*—Patent dated July 2, 1861.—The receiving vessel into which the burnt bone is introduced through the supply pipe is constructed with its lower portion perforated and in the form of an inverted frustum of a cone, having a central opening at its bottom for the entrance of an upward current of air and for the outlet of the grains of bone-black. Above the lower opening is a screen. The upper part of the vessel is connected by means of a pipe with a suitably arranged exhausting blower, which serves to draw off the dust-like impurities when the dry burnt bone-black falls through the lower part of the vessel.

Claim.—The combination of the perforated receiving vessel A and diaphragm or screen E, with the supply pipe or vessel D, the air-pipe B, and fan C, substantially in the manner and for the purpose shown and described.

No. 32,680.—CHARLES BUSHER, of Philadelphia, Pa.—*Improved Machine for Loading Coal, &c.*—Patent dated July 2, 1861.—Near the upper part of an elevator frame is arranged one end of an endless conveyor, the other end of which is supported by a frame. To this latter frame is connected one end of a second conveyor having its opposite end resting upon a circular railway, by which means coal may be taken from one point and delivered at any other desired point within range of the second conveyor.

Claim.—First, the arrangement of an elevator B and conveyor D, with a circular moving conveyor H, substantially in the manner and for the purpose described.

Second, the arrangement of the conveyor H, capable of turning at one end around a centre, and supporting the other end upon a circular railway, in the manner and for the purpose herein described.

No. 32,681.—THOMAS CASTOR, of Philadelphia, Pa.—*Improvement in Opening Railroad Car Doors.*—Patent dated July 2, 1861.—This invention consists in so arranging double-sliding doors at the rear of the car, and operated by means of connecting rods and levers as to be under the control of the driver in front and thus dispense with the services of a conductor.

Claim.—The combination of the lever C, upon the front of the car, and the double-sliding doors B B, when connected by a suitable combination of levers to open and close the doors, substantially as herein described.

No. 32,682.—FRANK COLLIGON, of Buffalo, N. Y.—*Improved Steam Boiler.*—Patent dated July 2, 1861.—The nature of this invention is set forth in the claim. The two boilers are connected together in such a manner that the supplemental boiler may be easily removed without interfering with the operation of the other after its removal.

Claim.—The arrangement of a supplemental flue boiler within the large flue space of an ordinary steam boiler, and connecting the two boilers together in such a manner that the flame and heat from the fire shall first pass through the flues of and around the supplemental boiler and be then returned under the outer boiler to near its front end, and thence returned over the sides of the outer boiler to the chimney, and so that the water and steam may freely pass from one boiler to the other, for the purposes and substantially as described.

Also, connecting the supplemental boiler to the outer boiler by means of the pipes G H I, in the manner and for the purposes substantially as set forth.

No. 32,683.—WILLIAM F. CONVERSE, of Harrison, O.—*Improved Bed Bottom.*—Patent dated July 2, 1861.—The right lines of a longitudinally stretched cord or wire are converted into a series of lateral or diagonal deflections in successively opposite directions. By connecting them together alternately at intervals by means of open links the cord may be kept constantly tightened without the necessity of removing or loosening the cords from the pins.

Claim.—First, forming a tight, elastic cord or wire bottom for beds, chairs, lounges, &c., by forcing and securing the cord or wire into a series of alternate deflections by means of the open link D, substantially as described.

Second, the pin, Fig. 2, and strips *a a' b b'*, constructed and attached substantially as and for the purpose stated.

No. 32,684.—D. A. DANFORTH and WILLIAM A. WILKINSON, of Elkhart, Ind.—*Improvement in Stump Extractors.*—Patent dated July 2, 1861.—Secured to the axle of two broad wheels or rollers is a lever to which are attached in front of the axle two braces or pawls engaging with cogs upon the wheels, by means of which the wheels are caused to turn with the lever. Near the end of the lever is attached, by means of two movable iron straps, a bite or check formed with three sides of different lengths, so as to render it adjustable to grubs or stumps of different sizes, and operates in connexion with a hook attached loosely to the axle.

Claim.—The arrangement of the lever L and braces P P, in connexion with cog-wheels J, movable check or bite B, and hook C, all being arranged and secured as set forth in this application and described in the drawings.

No. 32,685.—J. A. DE BRAME, of New York, N. Y.—*Improvement in Fire-Arms.*—Patent dated July 2, 1861.—This invention consists in constructing the barrel of a piece of ordnance or fire-arm with a portion of its length commencing at any point in front of the chamber, and

extending to within any distance from the muzzle, with a series of openings extending in a longitudinal direction, leaving only metal enough to guide the projectile.

Claim.—First, the construction of any portion of the length of the barrel of a piece of ordnance or fire-arm, of skeleton form, substantially as specified.

Second, the combination in a piece of ordnance or fire-arm with a movable chambered breech of a chamber or chambers of ordinary construction—that is to say, without openings in the sides, and a stationary barrel of skeleton form, substantially as specified.

No. 32,686.—FRANK DIBBEN, of New York, N. Y.—*Improvement in the Method of Amalgamating Ores of the Precious Metals.*—Patent dated July 2, 1861.—The nature of this invention is explained by the claim.

Claim.—The process of amalgamating a precious metal contained in a finely divided matrix by depositing or "throwing down" mercury thereon from a soluble salt of mercury by local electro-chemical action induced between the precious metal and particles of zinc or other suitable material distributed throughout the mass to serve as a positive pole or a node, substantially as and for the purpose set forth.

No. 32,687.—ANDREW FOSTER, of New York, N. Y.—*Improved Bedstead.*—Patent dated July 2, 1861.—The longitudinal slats rest upon S-shaped springs supported upon the end pieces of the bedstead, the under side of the slats being provided with screws which play in slots in the upper ends of the springs.

Claim.—A bedstead constructed as shown, in combination with the S-shaped springs and slats, the whole arranged and operated as and for the purpose set forth.

No. 32,688.—J. S. FOSTER, of Vallicita, Cal.—*Improved Machine for Felling Trees.*—Patent dated July 2, 1861.—To the projecting ends of a sliding carriage is attached a removable cutter made with two cutting edges, and to which a rotary motion is given by means of a belt and pulleys. The frame is secured to the tree by means of adjustable screws which clamp the tree on either side. The cutter is kept up to its work by means of a weight attached to a cord which is connected to the sliding carriage.

Claim.—The carriage C, carrying the cutter G and the pulleys E *e*, for operating this cutter, in combination with the weight *b*, frame C, and clamps *h h*, all arranged and operating substantially as and for the purposes specified.

No. 32,689.—JOHN GAULT, of Boston, Mass.—*Improved Projectiles for Ordnance.*—Patent dated July 2, 1861.—The projectile is constructed with two or more movable sections formed by a longitudinal division of its body, and hinged at the base or rear end of the projectile, fitted with a band to keep the sections together in compact form previous to the insertion of the projectile in the gun and during the first part of its flight, and with a cavity or chamber within and between the said sections, to contain a charge of powder to be fired by a fuse, for the purpose of bursting the said band and spreading the sections by its explosion. The movable sections are made hollow to contain gunpowder, and with vents leading to the chamber, that the charges in said sections may be fired by fuses ignited by the explosion of the charge in the said chamber, for the purpose of bursting the said sections into fragments, and scattering them in all directions in a suitable time after the spreading of the sections.

Claim.—First, the combination of the hinged movable sections A A, and the chamber *b*, to contain a charge of powder within said sections, substantially as and for the purpose set forth.

Second, the soft-metal band D, fitted to a groove *c c*, in the said hinged movable sections A A, and serving the two purposes of confining the said sections and a packing-ring, substantially as herein specified.

Third, the combination with the movable sections A A of the breeching E, applied substantially as and for the purpose herein specified.

Fourth, the construction of the movable sections A A with chambers G G, connected with the central chamber *b* by vents *j j*, substantially as and for the purpose described.

No. 32,690.—ANDREW HARTUPEE, of Pittsburgh, Pa.—*Improvement in Valve Gear for Steam-Engines.*—Patent dated July 2, 1861.—The lifters for the puppet valves are constructed of such a shape that they will raise the levers of the valves by rolling in contact or nearly so, for the purpose not only of saving friction and avoiding the wearing away of the lifter and lever, but by applying the force of the lifter at the commencement of the stroke to the end of the lever, instead of near its centre, effecting a saving of power and increasing the efficiency of the engine.

Claim.—The use of lifters for puppet valves of steam-engines so constructed and arranged, in relation to the shaft on which they are placed and by which they are operated, as that their extremities shall be in the line of an arc of a circle, the tangential point of which, where it intersects said shaft, shall pass within the circumference of the shaft, and either through its axis or near thereto, for the purpose hereinbefore set forth.

No. 32,691.—J. C. HENDERSON, of Albany, N. Y.—*Improvement in Stoves.*—Patent dated July 2, 1861.—This invention is designed as an improvement upon the stove patented to the

said Henderson May 1, 1860, and it consists in an arrangement of flues in connexion with two ovens, so that the latter may be used separately for distinct operations, or may both be heated almost uniformly to perform corresponding duties. In front of the grate is a register, fitted in such a manner that a roaster can be applied to the front of the stove, and receive the direct rays of heat from the fire in the grate.

Claim.—First, the arrangement of the ovens *i k*, and flues *n n* and *p*, and damper *l*, in the manner and for the purpose specified.

Second, the arrangement of the deflector *r* and plates *t t*, in combination with the flues *p* and *n n*, for directing the draught as it passes around the oven *k* so as to equalize the heat, as set forth.

Third, the arrangement of the grate *g*, front plate *x*, and register 5 4, in the manner and for the purpose specified.

No. 32,692.—DAVID HINKLE, of New Pittsburg, Ohio.—*Improvement in Clover Harvesters.*—Patent dated July 2, 1861.—The packing attachment is connected to the crank-shaft upon which the reel is fastened by means of loops; as the reel revolves, the packing attachment catches the clover which has been gathered, and packs it back in the box from whence it is taken. Guides are secured to each side of the box for the purpose of directing the motion of the packing attachment. Secured to one or more of the wings of the reel are serrated knives, for the purpose of nipping off the heads of the clover as they are caught between teeth secured to the bottom of the front part of the box. By means of a pivoted lever the front part of the machine can be elevated or lowered so as to be adjusted to the length of the clover.

Claim.—First, the employment of the packing attachment F, arranged and operated in conjunction with reel B, substantially as and for the purpose set forth.

Second, the arrangement of the packing attachment F, in combination with guides *d d*, reel B, knife *a*, and lever G, when all shall be constructed and operated in the manner and for the purpose specified.

No. 32,693.—G. C. HOWARD, of Philadephia, Pa.—*Improvement in Machines for Perforating Paper.*—Patent dated July 2, 1861.—This invention relates to that class of perforating machines in which a number of vertically reciprocating punches are used, and the improvement consists in a reciprocating cross-head carrying adjustable plates with punches, in combination with adjustable stripper and guide plates and lower adjustable perforated plates, all so constructed and arranged as to admit of ready adjustment. Combined with the reciprocating punches is an endless apron and certain endless bands for conveying the sheet to be perforated from the endless apron to a proper position to be acted upon by the punches. By means of a lever, in connexion with a small arm on the driving-shaft and a notched strap bar, the strap is passed from the fast to the loose pulley, and the machine stopped at a given point of its movement. The devices under the fifth claim are designed for regulating the extent of movement of the feeding apparatus.

Claim.—First, the reciprocating cross-head H, its adjustable plates I and I′, with their punches, in combination with the adjustable perforated stripper plates J and J′, and the adjustable plates M and M′, the whole constructed and arranged substantially as set forth, for the purpose specified.

Second, in combination with the vertically reciprocating punches, the endless apron R and endless carrying bands *d*2 and *e*, arranged and operated substantially as and for the purpose set forth.

Third, registering the sheet prior to being submitted to the action of the punches, by means of the printed matter on the sheet, with the aid of any convenient number of registering arms 9 10 and 11, or their equivalents, as described.

Fourth, the lever *w* hung to the frame of the machine, in combination with the arm *x* on the driving shaft, and the notched strap-bar *t*, for the purpose specified.

Fifth, the arm 4, the weighted dog 5, or its equivalent, and the adjustable arm 3, or its equivalent, in combination with the feed-wheel 6, the whole being arranged and operating substantially as and for the purpose set forth.

No. 32,694.—WM. S. HUDSON, of Paterson, N. J.—*Improvement in Manufacturing Tube Sheets for Boilers.*—Patent dated July 2, 1861.—This invention relates to the manufacture of locomotives and other similar boilers, which require to be thick at their upper parts where the tubes are united thereto, and to be thin at their lower parts, and the improvement is designed to supersede the usual process of hammering down the metal to produce the thin part, while only the thick part could be rolled into proper form.

Claim.—The described method of producing a rolled metal sheet, one part of which is uniformly of one thickness, and another part of which is uniformly of another and different thickness—that is to say, first rolling the entire sheet to the thickness required for the thick portion, and afterward rolling two sheets with the portions required to be thinner, superposed one upon the other, substantially as set forth.

No. 32,695.—JOHN HUTCHISON, of Matteawan, N. Y.—*Improved Boat.*—Patent dated July 2, 1861.—This invention is explained by the claim.

Claim.—A boat A, made of splints *a* of hickory, or other suitable wood, connected and woven together in the manner of ordinary basket work, and strengthened by a keel *b*, and longitudinal central strip *c*, and by a gunwale *e*, and covered over with India-rubber cloth or other water-tight material, all in the manner shown and described.

No. 32,696.—T. A. JEBB and ABNER CUTLER, of Buffalo, N. Y.—*Improved Skate.*—Patent dated July 2, 1861.—Secured to the back of the leg by a strap is a flat spring made in two parts connected by loops or slides, so that the parts may slide upon each other and be made adjustable to any desired length. The lower end of the spring is fastened to the socket of the heel plate by a screw, the object being to support the leg and ankle in the forward and backward movement. Upon the skate runner is a heel support, which is provided with a groove, so as to slide upon the runner and be made adjustable to feet of different lengths. A similar support is provided for the ball of the foot, and may be secured to the skate runner by means of a metallic stirrup instead of bolts.

Claim.—First, the combination of the spring I with the skate, the said spring and skate being so constructed and used that the said spring shall be placed back of the leg, and be connected to the leg and heel of the skate for the purposes and substantially as set forth.

Second, a heel support *c'*, made longitudinally adjustable on the skate runner, in combination with the metallic stirrup H, for the purposes and substantially as described.

No. 32,697.—T. A. JEBB, of Buffalo, N. Y.—*Improved Churn.*—Patent dated July 2, 1861.—Within the body of the churn are placed three tubes, two of which are open at the top and closed at the bottom to receive and hold water; the other tube is made open at the top and bottom so as to allow a current of air to pass down through it into the cream. Dash blades are secured to the shaft to revolve under and between the tubes.

Claim.—The described arrangement of the water tubes A A, air tube B, and dash blades G G G, within the churn tub, so that a space may be left between the said tubes and the sides of the churn tub, and so that the lower dash blade shall revolve under the lower ends of said tubes, while the other dash blades shall revolve in the space between said tubes, as set forth.

No. 32,698.—NATHANIEL JOHNSON, of New York, N. Y.—*Improved Camp-Stool.*—Patent dated July 2, 1861.—The legs of the stool are provided with a concave recess upon their inner sides, within which recess is a central ball of iron or hard wood, which is secured to the legs by means of screws and nuts.

Claim.—The use or employment of the central ball B, in combination with the legs A A A and seat C, when the same shall be constructed and operated as specified, for the purpose specified.

No. 32,699.—A. W. P. LADD, of San Francisco, Cal.—*Improved Faucet for Beer Barrels.*—Patent dated July 2, 1861.—The faucet is made with an auger on its inner end, by which a hole is bored into the cask. The outer end of the faucet is provided with a horn or projection which, with the nozzle, serves as a handle to turn the auger.

Claim.—The combination of a faucet and auger B with a horn or projection C, when arranged in relation to each other as and for the purpose described.

No. 32,700.—JOHN E. LAYTON, of Pittsburgh, Pa.—*Improvement in Fireplaces.*—Patent dated July 2, 1861.—This invention is explained by the claim and engraving.

Claim.—The arrangement, in the construction of open fireplaces, of a fire-basket placed in front of the throat of the flue, a back wall sloping backward from the top of the fire-basket to the back of the throat, and the throat also sloping backward, as described.

No. 32,701.—JOHN LIPPINCOTT, of Pittsburgh, Pa.—*Improvement in the Manufacture of Shovels and Spades.*—Patent dated July 2, 1861.—The object of this invention is to give to the spade or shovel a fine polish, at a great reduction in cost over the usual method of polishing, and to render them proof against rust during transportation or storage.

Claim.—Making shovels or spades with an exterior coating of tin, as a new article of manufacture.

No. 32,702.—JAMES MCINTYRE, of New York, N. Y.—*Improvement in Bomb Shells.*—Patent dated July 2, 1861.—The bomb shell is formed of two or more casings or shells kept apart by projections, so that several separate and annular compartments are formed for containing explosive or inflammable material; the charges being exploded successively after the explosion of the first space, which causes the inner shells to fall in a new position, where the second explosion takes place, and so on.

Claim.—The employment of two or more shells *a b c*, kept apart by the projections 1 and 2, in the manner specified, and forming a bomb, for the purposes and as set forth.

No. 32,703.—GEO. A. MEACHAM, of New York, N. Y.—*Improved Button.*—Patent dated July 2, 1861.—This invention consists in constructing covered or coat buttons with a rotating flexible eye, by means of which the strain upon the fastening, caused by the twisting of the button in buttoning the coat, is avoided.

Claim.—First, a button composed of the face plate A, partially open back B, revolving flexible eye M, and the part E, or its equivalent, for supporting and retaining M, constructed and operating together substantially as and for the purpose set forth.

Second, in buttons, substantially of the character described, the use of the guard *e* upon the ring E, for the purpose of preventing the abrasive action of B upon M, as specified.

No. 32,704.—JOSHUA MERRILL, of Boston, Mass.—*Improvement in Distilling Hydrocarbon Oils.*—Patent dated July 2, 1861.—This invention consists in a mode of using caustic alkali within the still, and in direct contact with the boiling oil, without suffering it to lie in on the bottom of the still, by placing the alkali in a pan which rests on the bottom of the still; the latter, being concave, allows the oil to circulate under the bottom of the pan.

Claim.—The described mode substantially of using caustic alkali, by aid of a pan, as set forth.

No. 32,705.—JOSHUA MERRILL, of Boston, Mass.—*Improvement in the Manufacture of Hydrocarbon Oils*—Patent dated July 2, 1861.—This invention consists in the employment of the acid residues, without alteration, for the purpose of aiding in purifying the oils in a different stage of process of the manufacture. The acid sludges from the succeeding treatments are used in purifying the oil in the next preceding stage of the manufacture, or the acid sludge from all the subsequent treatments are used to purify the crude oil.

Claim.—The described improvement in the process of purifying hydrocarbon oils, by treating the first distillate with acid residues, substantially as described.

No. 32,706.—JOSHUA MERRILL, of Boston, Mass.—*Improvement in the Construction of Stills.*—Patent dated July 2, 1861.—The bottom of the still is constructed of seamless wrought iron, sufficiently deflected or dish-shaped to admit of expansion and contraction consequent upon exposure to the direct action of the fire, without breaking the joint by which it is secured to the body of the still.

Claim.—The formed seamless wrought-iron still bottom, substantially as described, and substantially for the purposes set forth.

Also, the still as a whole, consisting of a cast-iron top, wrought-iron sides, and wrought-iron seamless bottom, combined together by angle-iron couplings, substantially as described, for the purpose of making a comparatively light and durable hydrocarbon oil still.

No. 32,707.—WILLIAM K. MILLER, of Canton, O.—*Improvement in Harvesting Machines.*—Patent dated July 2, 1861.—The sides of the main frame are united by a bent axle or brace near where the journals of the wheels are united to the said frame. Upon the main frame are boxes in which a cross-shaft is supported and turns, to which shaft are hinged two frame pieces J J, which extend rearward, and are bolted to the finger-bar. To the under side of these frame-pieces are hinged two bars M M, which extend rearward, and to which the foot-board and raker's stand are fastened. The outer reel-post is rigid but adjustable; the inner one is made adjustable by means of a pin and slot, in a pivoted plate *z*. On the end of the reel-shaft is a pulley, around which a belt passes, and thence around another pulley near the joint of the hinged reel-support, and thence around a pulley on the hub of the driving-wheel, from whence the reel is driven, by which means the platform or finger-bar and cutters may rise and fall, whilst the reel will swing, to admit of this movement, and the belt, crossing the joint between the platform and main frame, will continue to drive the reel.

Claim.—First, in combination with the main frame A and the hinged frame J J, the third frame M, hinged to the hinged frame J, so that each may have motion independent of the other, substantially as described.

Second, the hinged plate Z, serving as a common support to the reel-post V and to the pulley 8, substantially as represented.

Third, the construction and arrangement of the reel W, reel support V, swinging on the pin *v* and driving belt 7, geared back to or near the hinge of the said reel support, and thence to the pulley 9 on the main frame, for the purpose of allowing the reel to accommodate itself to the rising and falling of the platform, and still keep the belt taut, as described and represented.

No. 32,708.—ORSON MORGAN, of Henry, Ill.—*Improvement in Horse-Collar Blocks or Formers.*—Patent dated July 2, 1861.—The block is divided into four sections or blocks, the throat block being permanently secured to the table, and the section forming the small end of the collar sliding longitudinally on a dovetailed tenon in the centre of the table. The motion of this section is caused by a right and left screw, and a transverse motion is communicated to the side sections, through wedge-shaped side pieces attached to the sliding section.

Claim.—The construction of a horse-collar block in parts arranged in the manner described, that they may be expanded uniformly, and retain the same relative proportions of length and breadth and shape, to suit the various sizes of collars.

Also, the sliding carriage H, constructed substantially as described, with the spurs *h*, for clamping the ends or points of the collar, and the lever K, by which the rope *k k* is tightened into the hames groove.

No. 32,709.—FRANCIS NICHOLS, of New London, Conn.—*Improvement in Soda Water Apparatus.*—Patent dated July 2, 1861.—The casing of the draught tube is so combined with the cooler, by means of suitable pipes, as to constitute a portion of a siphon through which the waste ice water from the cooler is caused to circulate, for the purpose of keeping the draught tube cool. The casing surrounding the syrup vessels is so constructed and combined with the cooler, by means of pipes, as to make said casing form a portion of a siphon by which the ice water is caused to be drawn from the cooler.

Claim.—First, combining the draught tube casing B with the cooler C, which cools the pipe from the fountain, by means of a system of pipes by which the said casing is caused to form a portion of a siphon, substantially as and for the purpose specified.

Second, combining the casing J, which surrounds the syrup vessels, with the cooler C, by means of a system of pipes, by which the said casing is made to form a portion of a siphon, substantially as specified.

Third. combining the casings B and J with each other, and with the cooler C, by a system of pipes which makes both of said casings constitute portions of the same siphon, substantially as and for the purpose specified.

No. 32,710.—H. L. PADDOCK, of Pontiac, Mich.—*Improved Felling Guide for Sewing Machines.*—Patent dated July 2, 1861.—This invention consists in the combination of two straight edges and a taper scroll for turning the edge of the cloth to form the fell, folding the fell in a line parallel with the seam, and guiding the edge of the fell as close as desired to the needle.

Claim.—A felling guide composed of a scroll D, and two straight edges *d* and *f*, combined and arranged relatively to each other, substantially as described.

No. 32,711.—MILO M. PARRISH, of Pleasantville, N. Y.—*Improvement in Machines for Cutting Out and Dressing Slabs of Marble and other Stones.*—Patent dated July 2, 1861.—Within a vertically sliding frame is a sash, to which are fastened cutters, the lower edges of which are curved and serrated. On the top of each cutter is a friction roller, resting upon which is a weighted table having cords at each corner passing over pulleys to a drum, by which means the table may be raised to any desired height for adjustment to slabs of different thicknesses.

Claim.—The employment of the vibrating weighted serrated curved cutter T, constructed as described, in combination with an adjustable weighted table, for the purpose and substantially as set forth.

No. 32,712.—WILLIAM PATTON, of Towanda, Pa.—*Improved Shutter and Door Fastener.*—Patent dated July 2, 1861.—Applied to the sill of a window or door is a semicircular band or rod, with notches in its periphery, into one of which a catch attached to the window or door being dropped, serves to hold the same open at any desired point. Independently of the semicircle is a receptacle for the catch when the window or door is closed.

Claim.—The arrangement, as described, of semicircular band A, with notches in its periphery to receive the catch B, at the end of the bent lever C, attached to the window or door.

Also, the above arrangement with receptacle D, for the purpose as specified.

No. 32,713.—JOHN S. RAND, of North Providence, R. I.—*Improvement in Well Buckets.*—Patent dated July 2, 1861.—The bucket is formed with a valve in its bottom to which the rope is attached; as the bucket descends into the water the valve opens, and the bucket is filled; the rope being drawn up the valve closes, and the bail of the bucket strikes against a slotted bar, thus raising the trough, which is held up by means of a catch and latches. The bucket is sustained upon a seat within the trough, and the water escapes from the bucket upon unwinding the rope and opening the valve.

Claim.—The combination of the bucket A, constructed as described, with the arms C, trough B, bar F, latches H, shaft K, and arm *m*, in the manner and for the purpose set forth.

No. 32,714.—T. S. and T. W. RAPPELYE, of Farmer, N. Y.—*Improved Plough.*—Patent dated July 2, 1861.—This invention relates to the combination of a surface and subsoil plough, the subsoil portion consisting of an attachment so arranged as to be readily applied to and detached from any plough in common use.

Claim.—The combination of the two A D, when arranged substantially as shown, to wit: the share or plough D, having its foot or standard C secured to the bar or beam B, by means of the lip *d*, and the screw *c*, passing through the slot *f*, into the bar or beam B, and the front end of the bar or beam B, attached to the back part of the beam *a* of plough A, by means of the screw *c*, and lips *b b*, for the purpose specified.

No. 32,715.—E. C. WILLIAMS, of Jersey City, N. J., assignor to JAMES FLANAGAN, of New York, N. Y.—*Improved Portable Tent.*—Patent dated July 2, 1861.—A piece of canvas, cut in a peculiar form and used in connexion with two cross props and a few pegs and cords, is made to form a portable tent or covering sufficient to afford protection for a single soldier in a recumbent or lying posture, and capable of being folded up in a small parcel that may be readily carried.

Claim.—The water-proof cloth or canvas of the form shown and described, in combination with the jointed cross props, foot prop, cords, and pegs, arranged to form a portable tent or covering for troops, substantially as specified.

No. 32,716.—JOHN W. REDDING, of Belleville, O.—*Improvement in Raising and Forcing Pumps.*—Patent dated July 2, 1861.—This invention consists of two cylinders, connected at their lower ends with a curved joint, to which is attached the induction cylinder. Extending from each cylinder is a curved pipe, the two extending upwards and converging to a point within a pyramidal block, above which is an air-chamber and discharge pipe. The pistons are attached to a fulcrum bar which is operated by means of a crank and pitman.

Claim.—The cylinders B B, flaring at top and united at bottom by curve C, into which flows the induction pipe or cylinder *e;* also, the confluent pipes E E, air-chamber H, and discharge pipe I, all combined and arranged as described, when operated by means of the fulcrum M, piston-rods N N, pitman P, crank O, and wheel R.

No. 32,717.—GEORGE M. RHOADES, of Hamilton, N. Y.—*Improvement in Butter Workers.*—Patent dated July 2, 1861.—Upon the sides of a common tray are placed a track or ways upon which runs a frame or car to which the compressor is secured. Friction rollers are arranged above and below the track, and the compressor is made to travel over and work the butter.

Claim.—First, the particular form of compressor A, made by four narrow angular strips attached to a square shaft, as set forth.

Second, the combination of the car *c*, with the compressor A, and tray M, by means of the track E, and upper and lower friction rollers H H and *j j*, arranged substantially as set forth.

Third, the mode of connecting and disconnecting the car and tray, by means of a movable portion of the track or way, as set forth.

No. 32,718.—T. M. RICHARDSON, of Searsport, Me.—*Improved Baggage Director.*—Patent dated July 2, 1861.—This invention consists in providing trunks, valises, &c., with a director, consisting of an outer and inner metallic shield, a revolving disc containing the abbreviated names of all or any desired number of States, a font of type, and a type holder, by which the name of the traveller and place of destination may be shown.

Claim.—The baggage director, substantially as described, and for the purposes specified.

No. 32,719.—GEORGE W. ROBINSON, of Somerville, Mass.—*Improved Mechanical Steerer for Vessels.*—Patent dated July 2, 1861.—The screw-shaft has one of its bearings in the stern and the other bearing in a box or nut, a pivot from the lower side of which enters and turns freely in a socket set in the head of the rudder post. Firmly secured to the latter is a metal collar having an arm projecting from one side, from the end of which a connecting rod extends to a nut working upon the rear part of the shaft, by means of which, as the shaft is turned, motion is communicated to the rudder post.

Claim.—The combination of the screw-shaft E, nut L, connecting rod K, arm H, and pivot box F, on the rudder head, the whole arranged to operate substantially as described, for the purpose set forth.

No. 32,720.—CALEB RUSSELL, of Pittsburgh, Pa.—*Improved Apparatus for Destroying Insects, Reptiles, &c.*—Patent dated July 2, 1861.—This apparatus consists of a small bellows for blowing air through a flexible pipe into a pipe having a closed vessel connected to it, which vessel contains the substance to be blown through a second flexible pipe into the nests or holes of animals or insects to dislodge or destroy them, the closed vessel being provided with an adjustable valve by which the quantity of substance used may be regulated at will.

Claim.—The adjustable valve H, to cut off or graduate the supply of offensive material, in combination with the vessel J, and bellows A, the whole being constructed and arranged to operate substantially as described, for the purposes set forth.

No. 32,721.—JOHN RUSSELL, of Troy, N. Y.—*Improvement in Lamps.*—Patent dated July 2, 1861.—The bottom of the lamp is constructed with a reservoir for holding water or fluid for producing vapor, from which reservoir passes up a wick tube and wick through the centre and up to the top of the annular oil tube and wick, so that vapor proceeding from the water wick may mix with the particles of carbon in the flame and aid in their combustion.

Claim.—In combination with the wick tubes and wick of lamps, the water reservoir B, tube and wick *b*, or its equivalent device for producing and introducing the vapor of water, or of any similar fluid, in or in contact with the lamp flame, substantially in the manner and for the purposes as described and shown.

No. 32,722.—WILLIAM G. SCHMIDLEN and J. W. DRISCOLL, of New York, N. Y.—*Improvement in Reflectors for Lamps.*—Patent dated July 2, 1861.—This invention consists in applying corrugated glass in sections of a cylinder to metallic reflecting surfaces of a corresponding size and shape.

Claim.—The curved sections of glass applied within the curved metallic reflector in the manner and for the purposes specified.

No. 32,721.—H. H. SEELEY and P. GRISWOLD, of Hudson, Mich.—*Improvement in Grain Separating Machines.*—Patent dated July 2, 1861.—The bottom of the hopper is provided with a shaker which regulates the flow of grain. This shaker rests upon two springs which give it a vertical play. Immediately under the hopper is a screen which is secured to the shoe, and under the screen is a trough hung upon a pin at its centre, the latter being oscillated by means of a spring secured to its upper side. Under the screen is an adjustable bottom provided with holes, into which pins are inserted for securing it in any desired position. Beneath this adjustable bottom is a hinged section of the fan case, held in position by a spring which presses upon it; by raising this section the direction of the blast is regulated. The bottom screen is moved longitudinally of the shoe by means of a rod attached to the oscillating lever, and underneath the screen is a rocker which imparts to it a vertical shake motion.

Claim—First, the oscillating trough *d*, the spring *c*, and the screen *e*, arranged and operating in the manner and for the purpose set forth.

Second, the arrangement of the shaker *a*, springs *b b*, adjustable bottom *f*, hinged bottom *g*, and spring *h*, in the manner and for the purpose specified.

Third, the arrangement of the screen *i*, the rod *j*, the shoe H, and the rocker *k*, the same being connected and operating as and for the purpose set forth.

No. 32,724.—THOMAS J. SOUTHARD, of Richmond, Me.—*Improvement in Pumps.*—Patent dated July 2, 1861.—A weighted pendulum and weighted fly-wheel are applied to a pump, and operated by a crank in such a manner that the weight of the fly-wheel is made to descend, while the weighted pendulum is moving towards the opposite side.

Claim.—The combination of the weighted fly-wheel, the slotted pendulum, crank-pin M, and lever H, operating two or more pumps, when arranged substantially as set forth.

No. 32,725.—S. Z. SHORES, of Towanda, Pa.—*Improved Hand Corn Planters.*—Patent dated July 2, 1861.—The seed-case is constructed with three sides movable, and with a vibrating opener at the bottom of the stationary side of the case, which is operated by depressing the movable portion of the case. With the movable portion of the seed-case is combined a seed-dropping device, which is connected with the stationary portion of the seed case by means of jointed arms, the whole being so arranged that the desired number of grains of corn will be planted each time the lower end of the machine is pressed into the earth.

Claim.—The combination of vibrating tongue C, as described, with the rocking seed-dropping portion G, arm *h*, rod *i*, arranged in the relation to swell *g*, of side B, and operating in harmony with the tongue C, as described and shown.

No. 32,726.—TIMOTHY F. STRONG, of Fond du Lac, Wis.—*Improved Apparatus for Heating and Ventilating Railway Cars.*—Patent dated July 2, 1861.—Across each end of the car, upon the roof, is constructed a hood or cowl partially closed in front, and having for its back a flat or curved inclined mould-board, by which, when the car is in motion, a current of fresh air is driven into the closed end of the hood, and thence forced down a pipe which conducts it to a hot-air chamber of a heater within the car. The heated air may be conducted downwards and along the floor to registers in the bottom or side of the car.

Claim.—The combination of the hood with its inclined surface, and automatic valve, with the inlet pipe, hot-air chamber, distributing pipe and registers, when the several parts are constructed and arranged to operate in the manner and for the purpose set forth.

No. 32,727.—CYRUS W. STROUT, of Calais, Me.—*Improved Mortising Machine.*—Patent dated July 2, 1861.—This machine is designed for cutting oblique mortises in the stiles of window blinds for the purpose of receiving the slats. To the upper surface of the bar O, in front of the frame and extending through its whole length, is a longitudinal slot in which the guide of a bar R is allowed to slide freely. Attached to the upper surface of this bar is a fence against which the stile to be mortised is placed. To the under side of the bar R is attached a rack-bar, and to the centre of bar O is attached a spring-catch with a spring bearing on its lower end to keep the upper end engaged with the rack-bar. The bar O is moved longitudinally and obliquely upward by depressing the treadle, one of the straps giving the longitudinal movement while the slots of the inclined plates P give the oblique movement.

Claim.—First, the arrangement of the bar O, slotted plates P P, bar Q, and adjustable stop *h*, with the eccentric *i*, or its equivalent, for the purpose specified.

Second, the bar R, with rack-bar U attached and fitted on bar O, in connexion with the spring-catch V, in bar O, when the bar R and rack-bar U are used in connexion with the bar O, and arranged to operate conjointly therewith, for the purpose specified.

Third, the combination of the treadle H, straps W W, bar G, lever F, and strap *f*, substantially as shown, for the purpose of operating simultaneously the bar O and mandrel C, as described.

No. 32,728.—EDWARD A. TUTTLE, of Brooklyn, N. Y.—*Improvement in Fireplace Register Frames or Summer Pieces.*—Patent dated July 2, 1861.—The reserve rims are so combined in separate parts with the ornamental border frame, in the construction of summer

pieces, that in their use the warming apparatus at the centre shall not be interfered with, while the necessity of cutting and fitting shall be obviated, and the article be made ready for use by a simple process of adjustment.

Claim.—As a new article of manufacture, the summer piece made ready for use by the arrangement and combination of the reserve pieces *b b*, with the ornamental border A, adjustable at points beyond the register opening, all substantially in the manner set forth.

No. 32,729.—ANDREW J. VANTUYL, of Hector, N. Y.—*Improved Separator for Threshing Machines.*—Patent dated July 2, 1861.—The cylindrical screen is open at both ends, and is hung on an arbor or shaft, its axis being longitudinal with the machine, and is so arranged in relation to the fan that a part of the blast passes through it and a part below. Over the fan and screen are placed endless carriers.

Claim.—An improved separator for threshing machines, consisting of the adjustable cylindrical rotating screen G, combined and arranged with the fan H and carriers D and E, substantially in the manner and for the purpose shown and described.

No. 32,730.—WILLIAM L. WASHBURN, of Springfield, Mass.—*Improved Ventilator.*—Patent dated July 2, 1861.—Across the top of the upper sash is secured a vertical flange, and to the framing above is hinged a flap-valve so as to hang between the valve and sash. When the sash is lowered to admit fresh air a circuitous aperture will be formed, and in case of too great draught the swinging valve will partially or wholly close, and thus regulate the draught.

Claim.—The combination of the flanged shelf C D, and hinged valve F, with the window A B, the whole being constructed and arranged in the manner and for the purpose shown and explained.

No. 32,731.—S. A. WILLETT, of Philadelphia, Pa.—*Combined Heater and Boiler.*—Patent dated July 2, 1861.—Around the fire-pot is an annular water-chamber, which is connected with and supplies an outer boiler with hot water by means of pipes. The air passes through a bottom plate and between the inner casing that surrounds the fire-pot and an outer casing, and, becoming heated, passes out through an opening above, to which distributing pipes may be connected.

Claim.—The hollow fire-pot C, when combined with the inner casing B and outer casing A, and with the boiler H, and its inlet and outlet pipes, by means of the pipes L and M, as and for the purpose set forth.

No. 32,732.—WILLIAM YOUDAN and DANIEL THOMAS, of West Elizabeth, Pa.—*Improvement in the Mode of Constructing and Operating Coal Railroads.*—Patent dated July 2, 1861.—This invention is explained by the claim and engraving.

Claim.—So constructing the inclined plane of coal railroads as that the grade at one end, near the coal pits, shall be very steep, while the grade of the remaining portion of the road is but slightly inclined, and continuing the rope to which the cars are attached over both the steep and the more level portions of the road, for the purpose of gaining power, by the descent of loaded cars on the steep grade, to carry forward other loaded cars down that portion of the road which is not sufficiently inclined to cause them to descend by their own unaided gravity, as well as to draw up the empty cars on the other track, substantially as described.

Also, the use of a clasp constructed as described, of the hinged strips *t t* and slide *v*, for the purpose of attaching the cars to the endless rope.

No. 32,733.—MCCLINTOCK YOUNG, of Frederick, Md.—*Improvement in Gearing for Driving Machinery of any Kind.*—Patent dated July 2, 1861.—This invention consists in the construction and use, in connexion with a bevel driving wheel, of a bevel pinion, the teeth or cogs of which are formed of round, tapering wire, secured in proper heads.

Claim.—A bevel pinion constructed of tapering wires set in suitable heads, to form the teeth or cogs, substantially as and for the purpose set forth.

No. 32,734.—EDWARD BEHR, of Brooklyn, N. Y., assignor to Himself and H. C. MANGELS, of the same place.—*Improvement in Constructing Skates.*—Patent dated July 2, 1861.—The object of this invention is to admit of the skate iron being readily ground and finished before the studs are secured to them. The slotted studs are slipped upon the irons and riveted thereto after finishing, when both may be easily secured to the stock.

Claim.—The employment of the detachable slotted screw studs, when made and applied as set forth and for the purpose specified.

No. 32,735.—LEONARD J. JOHNSON, of Philadelphia, Pa., assignor to Himself and JAMES E. OWENS, of the same place.—*Improvement in Pocket Match-Boxes.*—Patent dated July 2, 1861.—On the interior part of the box or case is constructed a holder for matches, with two metallic sheet spring clamp-plates of an elliptic form, intercepted by a rigid sheet-plate coated with emery or lined with sandpaper on each side, so that the act of withdrawing a match from the box will cause it to become at once ignited and ready for use.

Claim.—The match-holder B, with elliptic sheet spring clamps *c c*, for retaining the matches in place and compelling them to "rub" against a centre plate *d*, with emery or sandpaper, or their equivalents, attached thereto, for the purpose of causing ignition to the match when withdrawn from the same, the whole being arranged within and connected to the box or case A, in a manner substantially as and for the purposes specified.

No. 32,736.—WILLIAM A. KIRBY, of Buffalo, N. Y., assignor to Himself and D. M. OSBORNE, of Auburn, N. Y.—*Improvement in Harvesting Machines and the Raking Apparatus thereof.*—Patent dated July 2, 1861.—In combination with a hinge and reaching post that carries the rake are two connecting rods, working from one crank, so that a compound motion may be given to the rake that will lift it up out of the way of the falling grain and drop it down beside the outside divider and carry it straight across the platform, parallel with the finger-bar. The hinged rake post is located on the frame of the machine and inclined rearward, for the purpose of throwing the rake back from and out of the way of the falling grain as it passes to the divider side of the platform. Between the driving gear and the rake is an universal joint, so that as the cutters are raised or lowered on the main frame the rake may conform to them and keep itself adjusted to the platform.

Claim.—First, in combination with an automatic rake in a reaping machine, a hinged reaching post and two connecting rods, operated from one and the same crank, for the purpose of giving said rake its motions, substantially as described.

Also, hinging and supporting the rake post on the main frame, and inclining it backward, so that the rake will be out of the way of the falling grain when at rest, and be raised high enough as it moves towards the outside divider to avoid the falling grain, and drop beyond the stalks on the platform preparatory to sweeping them off, substantially as described.

Also, in combination with a rake post on the main frame and the rake driving shaft supported at one end on a supplemental frame, the two frames having motions independent of each other, the universal joint *k* in the rake shaft, for the purpose of preventing cramping in the gearing, substantially as described.

Also, in combination with an automatic rake, the lever, trigger, and clutch-arm, substantially as described, so that the driver at his seat may stop or set the rake in motion at his will, or set the trigger so that it will stop it after making one revolution or operation, as described.

Also, placing or making a guard or shield rigid upon a supplemental frame or plate to which the driving wheel is attached, and passing it under and partially around the gearing attached to said wheel, to protect it from injury or from being clogged, substantially as described.

No. 32,737.—THOMAS J. MAYALL, of Roxbury, Mass., assignor to CYRUS WAKEFIELD, of South Reading, Mass.—*Improvement in the Method of Cutting Strands from Ratan.*—Patent dated July 2, 1861.—This invention consists in first dividing the surface of the ratan into longitudinal sections of the required width for the strands, with a cutter or series of cutters that cut the silicious surface while it is supported by the body of the ratan, and that penetrate the core of the cane to the depth desired for the thickness of the strand. The ratan is then subjected, with its surface thus divided into sections, to the action of a tubular or polygonal cutter, which separates the surface strands from the internal cylindrical core.

Claim.—The method described of first dividing the surface of ratan into longitudinal sections by cutting the stick or cane to a requisite depth and then separating said sections from the core, to form strands for caning chairs and other purposes.

No. 32,738.—JAMES POOLE, of New York, N. Y., assignor to Himself and JAMES INGRAM, of the same place.—*Improvement in Gas-Burners.*—Patent dated July 2, 1861.—This invention consists in introducing within a burner of ordinary construction a deflector button, in connexion with a diaphragm of wire gauze, for the purpose of retarding and equalizing the pressure of the gas and causing it to be heated while in the burner.

Claim.—The deflecting button *b*, wire gauze *c e*, and disc *d*, applied in the gas-burner in the manner and for the purposes specified.

No. 32,739.—JACOB REIGHARD, of Birmingham, Pa., assignor to HALE, ATTERBURY & CO., of Pittsburg, Pa.—*Improvement in Glass Lamps.*—Patent dated July 2, 1861.—This invention is explained by the claim.

Claim.—A new article of manufacture, produced in the manner described, to wit: a glass lamp which has two distinct openings *a b* in its top, one in the centre for the introduction of the wick into the lamp, and the other at one side of the centre, for filling in the oil or other burning fluid, substantially as and for the purposes set forth.

No. 32,740.—BENJAMIN ARNOLD, of East Greenwich, R. I.—*Improved Shade for Lamps or Gas Lights.*—Patent dated July 9, 1861.—This shade is made with a fixed ring or collar, that rests on the chimney of the lamp, and is connected with a movable ring provided with slots to receive the ends of radial arms or levers covered with cloth or elastic material that can be folded. By turning the lower ring, the change in the position of the slots elevates or depresses the arms, and allows the light to fall upon a greater or less space as required.

Claim.—The combination of the rings and levers, substantially as described and for the purpose herein set forth.

No. 32,741.—B. T. BABBITT, of New York, N. Y.—*Improved Mode of Constructing Iron Vessels.*—Patent dated July 9, 1861.—The object of this improvement is to give additional strength to the frame of an iron vessel, and also to prevent leakage by filling all the open spaces between the ribs, bars, plates, and bolts with sulphur. The frame work of the vessel may be constructed in any way thought desirable and of any form or dimension, provided that open spaces or cavities are left; into these, when the frame forming the hull is completed, melted sulphur is poured and fills all of the interstices, making a solid hull.

Claim.—The combination of the sulphur with the frame work of the vessel, in the manner substantially as shown and described.

No. 32,742.—JOHN C. BAKER, of Adams Centre, N. Y.—*Improvement in the Construction of Wheels for Vehicles.*—Patent dated July 9, 1861.—The wheel is constructed in such a manner that one of its spokes may be removed and a new one inserted without taking the tire from the wheel or disturbing the felloes. A circular plate attached to the outer end of the axle has a central boss or projection, upon which the ends of the spokes abut, and are held in position by angular cavities fitting the ends and by a plate that laps over the ends. The spokes are also kept in place by a chain of clamps bolted to the circular plate or disc near its periphery, each spoke being free when the clamp-bolts are removed.

Claim.—The plate A, provided with the concentric circular projection B, bevelled and corrugated at its periphery, or provided with pointed projections *a*, in connexion with the annular chain of plates G, the circular plate H, and the spokes F, all arranged as and for the purpose set forth.

No. 32,743.—GEORGE BARKER, of New York, N. Y.—*Improvement in Machinery for making Cigars.*—Patent dated July 9, 1861.—This improvement is for the purpose of adapting the machine to the various sizes of cigars and to the varying qualities of the materials used. To effect this the rollers are hung in bearing plates, which are made adjustable by means of screws so placed that either end of the rollers can be elevated or depressed as required. The rollers can also be changed with facility when cigars of different shapes are to be made.

Claim.—The employment in a cigar machine of adjustable bearing plates or boxes K L, for the purpose of mounting the rollers, in combination with the guiding pins and adjustable screws, or their equivalent, the whole being constructed and operated in the manner and for the purpose set forth.

No. 32,744.—CHARLES BARTHOLOMAE, of New York, N. Y.—*Improved Canteen.*—Patent dated July 9, 1861.—This improvement will be fully understood by reference to the claims.

Claim.—First, the induction opening *d*, provided with a fixed funnel B, in combination with the mouth-tube E, and with or without the air-tube K, when applied to a soldier's canteen, constructed of curved form in its horizontal section, substantially as and for the purpose set forth.

Second, the filter I, when constructed, arranged, and used in connexion with the mouth-tube E of the canteen, as herein shown and described.

No. 32,745.—ELLIOT P. BARTON, of Batavia, N. Y., and RICHARD W. TOWLE, of Bath, N. Y.—*Improvement in Hay Rakes.*—Patent dated July 9, 1861.—This implement is intended to be used in the rear of a hay wagon, and at such a distance as will allow space for men to stand while pitching hay upon the wagon. The tooth-head and teeth are made in the usual manner, and the draught and fulcrum bar are constructed with holes corresponding in number and position with the teeth. Handles operating as levers are hinged to the head, and when the rake is full and the wagon stopped, the handles are lifted and a short arm operates upon the head, thus withdrawing the teeth from the hay, which is then removed. By lowering the handles the teeth are again placed in position for raking.

Claim.—The combination of the handles C C, hinged to the rake-head D, with the bars B and arms E E, when these parts are arranged and operated together in the manner and for the purpose specified.

No. 32,746.—CANFIELD BLODGETT, of Morrison, Ill.—*Improvement in Ploughs.*—Patent dated July 9, 1861.—This improvement relates to the standard of the plough and the abutment of the beam and handles, which are secured to the standard by a bolt passing through them and forming a joint. The beam and straight may thus be set at any angle with each other, the forward end being elevated or depressed according to the depth of furrow required. Movable and fixed tooth-plates upon the sides of the beam prevent the parts from changing their relative positions after they are set and ready for use.

Claim.—The improvement in the construction of the standard A, in combination with the beam B, the handles C, plate D, and brace E, all attached, constructed, and arranged substantially in the manner described and for the purposes specified.

No. 32,747.—LEWIS BOORE, of Buffalo, N. Y.—*Improvement in Gas-Meter Valves.*—Patent dated July 9, 1861.—In this device the rotary motion of the crank, which is connected with the movable diaphragms, causes all points of the valves to describe circles and move

over the whole surface of the valve-seat for the purpose of keeping it clean and producing equal wear upon all parts of the seat as well as uniformity of motion.

Claim.—First, so operating the valve as that an equal longitudinal and transverse movement will be given to it, so that all points of the valve will move over equal surfaces and describe equal circles, for the purpose and substantially as described.

Second, the cross *i i' i''*, in combination and arrangement with the valve F and operating crank, for the purposes and substantially as described.

No. 32,748.—C. H. BRADLEY, of Westchester, Pa.—*Improved Post Office Distributing Table.*—Patent dated July 9, 1861.—This invention is designed to facilitate the distribution of mail matter alphabetically, and consists of two tables parallel with each other and having in the upper table a series of slits lettered from A to Z. From the lower side of these slits tubes or chutes lead radially outwards to a series of boxes standing on the lower table having corresponding letters. When the mail matter is all passed down the lower table is swung outward upon a hinge, and the assorted letters removed from the boxes.

Claim.—Combining with the distributing tubes C C C, on table A, the semi-circular table G and receiving boxes *g g g*, arranged and operating substantially as described and shown.

No. 32,749.—JAMES C. BUTTERWORTH, of Providence, R. I., and BENJAMIN ARNOLD, of East Greenwich, R. I.—*Improved Device for converting Motion or Substitute for the Crank.*—Patent dated July 9, 1861.—The nature of this invention will be understood by reference to the engraving and claim.

Claim.—First, the use and employment of the combination of the lever, foot-piece, and case, substantially as described and for the purpose set forth.

Second, combining the cases substantially as described, so that the levers and foot-pieces shall be made to act by the friction created between the cases, for the purpose set forth.

No. 32,750.—N. W. CAMP, of Trenton, N. J.—*Improvement in Skates.*—Patent dated July 9, 1861.—This skate is designed for passing over uneven surfaces of ice without straining or cramping the foot, the iron or blade being made in two separate runners forming a double bearing. The top of the runner is secured to a flexible or yielding metallic plate, which forms the central portion of the sole of the boot.

Claim.—The construction of the skate as specified, that is to say, of two distinct runner portions B and B', in combination with a single flexible plate or sole *b*, in the manner and for the purpose described.

No. 32,751.—JEREMIAH CARHART, of New York, N. Y.—*Improved Propeller Shield.*—Patent dated July 9, 1861.—This invention consists in placing above the propeller an oval shield or arch of plate iron, which is designed to serve as a protection to the propeller and for partially concentrating and confining the water. The distance of the lower edges of the arch below the top is equal to about one-third the diameter of the propeller.

Claim.—A shield substantially in the form of an arc of a circle, suspended from the stern of a vessel by rods projecting downwards, without reference to size, placed over the wheel and in part enclosing and protecting the same, and which thereby partially confines and concentrates the water upon the same, increases its power, and also the speed of the vessel, constructed substantially as and for the purposes described.

No. 32,752.—JOHN CASE, of Philadelphia, Pa.—*Improved Canteen.*—Patent dated July 9, 1861.—A tube partially filled with sponge or other filtering material is inserted in the cork or stopper and extends nearly to the bottom of the canteen. A small hole is made through the side of the nozzle, forming a passage, one side of the cork being cut away opposite the hole so that air may enter as the liquid is drank. When not in use the cork is turned half round to prevent the escape of the liquid.

Claim.—The tube B, with or without the filtering medium E, fitted in the cork C, which is provided with a chamfered side *h*, in combination with a canteen A, provided with a perforated nozzle D, all arranged substantially as and for the purpose set forth.

No. 32,753.—RICHARD S. CHILD, of Philadelphia, Pa.—*Improvement in the Utilization of Coal Tar.*—Patent dated July 9, 1861.—The coal tar is placed in a shallow vessel and set on fire, the smoke being deposited in the form of lampblack in the usual manner. During the burning the tar thickens, and in about an hour is drawn off in suitable condition to be used as a roofing cement.

Claim.—The process herein described of utilizing coal tar, by converting it into roofing cement and lampblack, instead of into lampblack and a worthless residue, or into roofing cement and volatile substances.

No. 32,754.—JOHN CHILVER, of Jersey City, N. J.—*Improvement in Moulds for Moulding Pipe from Plastic Material.*—Patent dated July 9, 1861.—This apparatus is intended for moulding pipe in such a manner that the ends may enter and fit into a shoulder in the bell-mouthed end of the pipe. The pipe is moulded in a vertical position, resting on a base-board made in sections, which are moved outward, to expand the bell-mouth. An inner lining, also

made in sections, is forced outwards by a core and tapered piece of wood, which presses the plastic materials against the outer or fixed case. A projection or stem upon one pipe enters a corresponding recess on the adjoining pipe, forming a coupling.

Claim.—First, the construction of a mould with its flat bottom, and its projection L, whereby the sections of pipe made therein may be readily coupled, and have a continuous base, substantially as herein described.

Second, the combination with the flask of a mould of a core of uniform size and shape from end to end, constructed so as to expand and contract, substantially as described.

Third, the combination of the sectional bed plate and collar with the flask of the mould and with an expansible and contractable core, combined and operating substantially as described.

No. 32,755.—NEIL CLIFFORD, of Brooklyn, N. Y.—*Improved Vapor Lamp.*—Patent dated July 9, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—The arrangement of the tubes C K and wick-tube H, when used in connexion with the plug E and socket D, placed in the curved part *a* of the tube C, and in relation with the wick-tube H, and straight or upright portion of tube C, to operate as and for the purpose set forth.

No. 32,756.—J. A. DE MANIGUET, of Paris, France.—*Improvement in Machines for Twisting Silk.*—Patent dated July 9, 1861.—This machinery is intended to produce in a single operation the doubling, twisting, and spinning of wool, silk, or other fibrous materials. The slivers or threads which constitute the twist receive an equal number of turns, which is called the spinning or first twisting. This operation is on equal lengths of material between the two points of attachment, one of which is fixed on one side to the spinning spindle and the other to the twisting spindle. The effect of the torsion at the time when the twist begins to act as a drawing power, in proportion to the diameter of the material in each of the slivers. As each sliver diminishes in length and size, the strongest become placed in the centre, the medium sized are rolled around them, and the smallest are rolled round the two others, &c., to such an extent that, so soon as one of them varies in diameter, it changes immediately in tension and position, and consequently the slivers mutually sustain one another in proportion to their respective strength, and preserve in the material elasticity and ductility. An annular spindle is also used in certain cases.

Claim.—The method of making a continuous regular twist, although the slivers or strands may be irregular, and without destroying the elasticity of the material, and without unravelling it, as hereinbefore described.

Second, the method of winding and unwinding by means of an annular spindle, or its equivalent, operating substantially as herein described.

No. 32,757.—ANDREW DERROM, of Paterson, N. J.—*Improved Portable Hut or House.*—Patent dated July 9, 1861.—In these buildings the studs, plates, and other parts are dovetailed, and are also wedge-shaped, to prevent lateral thrust. Panels, which constitute the main part of the surface of the structure, are inverted in grooves made in studs and rafters, to serve as boarding, and at the same time strengthen and stiffen the building.

Claim.—The combination of the sills A, flooring timbers B, studs C, plates D, and rafters E, connected by wedge-shaped dovetail joints; and the divided panels F F F′, secured to the former by grooves *l*, ribs *g*, and bolts *k*, the whole being constructed and arranged substantially as herein shown and explained, and for the purposes set forth.

No. 32,758.—P. S. DEVLAN, of Elizabethport, N. J.—*Improvements in Car Brakes.*—Patent dated July 9, 1861.—In this invention two levers, crossing each other near the centre, are so curved as to embrace the two axles of the trucks. The ends of the lever toward the platform are elongated, and a right and left hand screw passes through them and forms a part of the upright shaft, upon which is a horizontal wheel; on turning this the levers are brought together, and the four shoes placed on the faces of the levers embrace both of the axles.

Claim.—The employment of clasping brake levers D, substantially as hereinbefore described, in combination with the axle or axles of the truck, and the screw-shaft, the whole arranged to operate substantially as described, for the purpose set forth.

No. 32,759.—ANDREW DOUGHERTY, of New York, N. Y.—*Improvement in Machines for Damping Paper for Printers' Use.*—Patent dated July 9, 1861.—The main feature in this invention is a roller covered with cloth for wetting the continuous roll of paper, a concave roller which bears at the outer edge or selvedge to prevent wrinkling or cockling, and the brake for regulating the delivery of the dry paper from the roller. The brake consists of a block of wood placed vertically between guides, its lower end being rounded and resting upon the dry roll of paper to produce uniform friction, whether it be full of paper or nearly empty. The roller upon which the damp paper is wound moves a little faster than the dry-paper roller, on account of the increased length of the dry paper when wet.

Claim.—The combination of a friction brake with means, substantially as described, for supporting a roll of paper in such manner that the tension is applied to the periphery of the roll of paper, substantially as set forth.

Also, the combination of a shaft that supports the roll of paper to be unrolled with an equalizing apparatus, the combination as a whole operating substantially as described.

Also, a damping apparatus, which is a combination of a series of cylinders having porous jackets, with means for supplying the damping liquid to them, and for regulating the quantity retained by the wet cylinder that is pressed in contact with the paper, substantially as described.

Also, a rolling mechanism, which is a combination of a shaft, or its equivalent, for holding the roll of paper, with a concave friction roller, so arranged as to impart motion to the periphery of the roll, and with guides for holding the roll in its proper position against the friction rollers, substantially as described.

Also, the combination of the following members, viz:

First, an apparatus for supporting a roll of paper and making tension upon the paper.

Second, an equalizing apparatus, substantially as described.

Third, a damping apparatus, substantially as described.

Fourth, a rolling mechanism, substantially as described.

The whole constituting a machine, operating substantially as described, for damping paper from the roll, and delivering it in a damp condition.

No. 32,760.—L. H. DOYLE, of Waterloo, Iowa.—*Improved Cultivator.*—Patent dated July 9, 1861.—The central triangular-shaped spade is attached to the beam, as usual; in the rear of this are sockets and bolts, from which two curved arms extend laterally nearly to the ground, and have at their ends shares placed obliquely; above the shares is a horizontal cross-bar, provided with slots and bolts, by which the shares can be placed at the right distance apart to throw the soil upon the rows of plants on either side.

Claim.—The sockets D D′, at the back of the beam A, with the feet or standards E E fitted therein shown, in connexion with the bar F and braces *h h*, arranged to brace the feet or standards E E, and at the same time connect the same to the bar F at the desired distance apart, substantially as and for the purpose set forth.

No. 32,761.—J. D. ELLIOT, of Grafton, Mass.—*Improvement in Machines for Folding Cloth.*—Patent dated July 9, 1861.—A pair of reciprocating blades operate so as to fold the cloth upon a table having jaws at either end to catch and hold fast each fold as it is laid over. As the blades pass under either jaw, the table drops away from the jaw in advance of the blade, to prevent the rubbing of the blade on the cloth, and from pulling the cloth under the opposite jaw.

Claim.—Attaching the pitman to the end of the folding blade, or to the staffs holding the blades, at or near the upper ends of said staffs, when applied to a machine for folding cloth, as described.

Also, the combination of the pawl G′, ratch F′, and shoe *a*4, with the yielding table of a cloth-folding mechanism, operating in the manner and for the purpose herein specified.

Also, giving the table a positive motion down in advance of the folding blades, for the purpose set forth.

Also, giving both the table and jaw a positive motion, in advance of the folding blades, for the purpose set forth.

Also, constructing the jaws *n o*, with a roughened surface for holding the folds of the cloth, made substantially as set forth.

No. 32,762.—W. C. FULLER, of London, England.—*Improvement in Gun-Carriages.*—Patent dated July 9, 1861.—This improvement consists in the application of India-rubber rings, working on a bolt or bolts parallel with the frames of the gun-carriage, to receive and neutralize the shock of the discharge, and convey the gun, by the reaction of the springs, back to its place, ready for reloading. The movement takes place between the carriage and the slide, deck, or platform.

Claim.—The particular mode or modes of applying India-rubber springs in the construction of gun-carriages, as set forth and described.

No. 32,763.—H. A. GAGE, of Manchester, N. H.—*Improvement in Machines for Addressing Newspapers.*—Patent dated July 9, 1861.—This improvement is intended to increase or diminish the pressure of the type upon the envelope containing a newspaper by means of a lever, link, and a rod connected with the platen, the length of the rod being regulated by a screw and nut.

Claim.—The mechanism for regulating the impression of the platen, consisting of the lever F, link G, and nut H, on the rod E, substantially as described.

No. 32,764.—C. P. GEISSENHAINER, of Pittsburg, Pa.—*Improvement in Cooking Stoves.*—Patent dated July 9, 1861.—This improvement relates chiefly to the supply of air for the draught, which enters under the hearth and in the rear of the fire-basket, being partially heated in its passage. The fire-door is provided with a flange, and below this is a space above the grate bars, for the purpose of returning gas or smoke to the fire.

Claim.—First, the arrangement in cooking stoves of an air-flue opening under the hearth, for introducing air in the rear of the fire-basket, in such relation to the flue for the exit of

the smoke and products of combustion as is hereinbefore described, that is to say: placing the horizontal smoke-flue in the front part of the stove and immediately under the air-flue, for the purpose of increasing the heat of the air as it enters the stove through the flue under the hearth, by extracting the waste heat from the smoke and products of combustion before they escape from the stove.

Second, constructing the door to the fire-chamber of cooking stoves with a flange projecting from its lower edge, so situated in relation to the hinge as that when the door is closed a space shall be left between the projecting flange and the grate bars to catch and return to the fire any smoke or gas that would otherwise escape into the room, substantially as described.

No. 32,765.—JOHN GIBBS, of Brooklyn, N. Y.—*Improved Shade Fixture.*—Patent dated July 9, 1861.—This invention relates to the pulley slide, which is attached to a window frame to keep the endless cord at a suitable tension. The slide carries a grooved pulley, and has at its lower end a projection which enters one of a series of holes in a fixed rack and retains the slide where it is placed.

Claim.—The construction of the adjustable slide with clasp hooks *e*, and locking T-shaped hook *g* in one piece, the plate A being provided with apertures *c* corresponding to hook *g* and the hooks *e* clasping the sides of plate A, the whole operating together in the manner and for the purpose shown and described.

No. 32,766.—C. R. GORGAS and WM. H. SMITH, of Wooster, Ohio.—*Improved Furniture Caster.*—Patent dated July 9, 1861.—Upon the conical pin of the common caster two metallic annular cups are placed, the cavity in the lower one being of sufficient depth to hold a liquid. The upper or inverted cup is held by a central collar at such distance as will prevent insects from crossing the edges of the cup. The lower cavity being filled with a liquid, prevents the passage of insects to the legs of the bedstead or other pieces of furniture to which the caster is applied.

Claim.—The combination of the socket B, conical pin C, cups G and H, necks *a* and *b*, and roller D, all constructed and operating in the manner and for the purpose shown and explained.

No. 32,767.—J. W. GRAHAM and J. M. TOPLIFF, of Pittsfield, Ill.—*Improvement in Water Elevators.*—Patent dated July 9, 1861.—This invention relates to the construction of a windlass, by means of which the roller that carries the buckets may be turned either back or forward while the crank is turned in one direction only. The bucket is emptied automatically by means of a rod and vibrating arm connected with the valve in the bottom of the bucket. Right and left hand spiral grooves guide two ropes, which, as the bucket rises, approach the centre of the windlass where there is a blank or cylindrical space, upon which the stem of the discharge valve strikes, (when the bucket reaches the top,) and allows the water to escape.

Claim.—First, in combination with the shaft *a*, the loose roll B, and gears *i f g*, and clutch G *h*, the whole constructed and operating substantially as described, for the purpose set forth.

Second, the combination of the windlass having reversed helical grooves, with the cords and water bucket, and the device for opening the valve of bucket, the whole arranged and operating as described, for the purpose set forth.

Third, in combination with the elevating and automatically discharging bucket and grooved windlass, the blank *u*, as and for the purpose specified.

Fourth, constructing the bucket with a mouth-piece *p*, in combination with its valve and opening mechanism, and a filling valve in centre of bucket's bottom, as described, for the purposes set forth.

No. 32,768.—EDWARD HAMILTON, of Chicago, Ill.—*Improvement in Breech-loading Ordnance.*—Patent dated July 9, 1861.—The inventor says: The first part of my invention consists in the combination of a movable conical breech with the fixed breech of a cannon, and the second part relates to the combination of the above with a movable stopper. To load the cannon the movable breech is turned until two lateral openings corresponding in position; the stopper is then withdrawn and the cartridge inserted: the stopper is replaced, the movable breech turned back, and the gun primed and fired in the usual manner.

Claim.—The combination of a fixed breech and a movable conical breech, the two being constructed and arranged substantially as described.

Also, the combination of a movable breech and of a fixed breech, constructed and arranged substantially as described, with a removable stopper for the charging opening, substantially as described.

No. 32,769.—G. H. HARTMAN, of Fort Wayne, Ind.—*Improvement in Bee-hives*—Patent dated July 9, 1861.—The interior of the hive is the form of a truncated pyramid inverted, for the purpose of enabling the bees to keep their brood warm; the movable comb-frames are of shape to fit the hive. The moth and feed drawer at the bottom of the hive has a sloping front, and is provided with slots about one-eighth of an inch wide, which allow

moths to enter, but are not large enough to admit the bees. This part of the drawer is covered with wire gauze, which is removed when the moths are to be killed. The size of the entrance is regulated by movable strips, the openings being of such a size that the loaded worker will be admitted, but not the queen. The other compartment forms a feeding space.

Claim.—First, the employment, in combination with the box A B C D, of the trapezoidal removable comb-frames *a*, the whole arranged and operating as described, for the purposes set forth.

Second, in combination with the sliding drawer F, the removable wire gauze frame *c*, arranged and operating as described, for the purpose set forth.

Third, making the front of drawer F, bevelled at *d*, in combination with the decoy entrances *e e e*, as described, for the purpose set forth.

Fourth, the peculiar manner described of regulating the entrance, for the purposes substantially as described.

No. 32,770.—ALBERT HOLBROOK, of Providence, R. I.—*Improvement in Pickers.*—Patent dated July 9, 1861.—The picker or shuttle-driver is made of raw hide in the usual manner and is provided with a slot, which receives the end of a flat bent spring, which passes over the top of the picker arm or lever. A leather wedge is placed betwen the picker and the stick to give an even bearing, and protect the stick from injury.

Claim.—Applying a raw-hide picker to a picker-staff, by means of a spring lever provided with a catch *a*, operating with the slot *o* of the picker, in the manner as represented, and for the purpose set forth.

No. 32,771.—ALBERT HOLBROOK, of Providence, R. I.—*Improvement in Pickers.*—Patent dated July 9, 1861.—The raw hide of which the picker is formed is first softened in water, and after being cut to the right breadth is bent to the form shown in the drawings and secured by two rivets, presenting to the action of the shuttle four thicknesses of the hide.

Claim.—An improved raw-hide picker, as constructed, of one piece of material, and with its two ends folded, interlocked, and connected in the manner and for the purpose as set forth.

No. 32,772.—GEORGE IVES, of Detroit, Mich.—*Improvement in Ditching Machines.*—Patent dated July 9, 1861.—This invention relates to machines in which the earth is carried back from the ditch by an endless apron, and consists in the use of two vertical coulters for widening the ditch and allowing the trough in which the apron traverses free passage without chafing or clogging at the sides of the trough. The coulters are applied in the rear of the plough and near the end of the apron trough.

Claim.—In the described combination with the coulter H, plough *d*, trough D, and elevator E, of a ditching machine, the arrangement of the coulters J J, attached to the sides of the machine at a distance in the rear of the plough, and projecting laterally beyond the path of the latter, all as shown and explained, and for the purposes set forth.

No. 32,773.—FREDERICK KESMODEL, of San Francisco, Cal.—*Improvement in Apparatus for Taking Casts for Pads.*—Patent dated July 9, 1861.—This instrument consists of a broad hoop or ring, over which a thin sheet of India rubber is stretched; this is laid upon the part of the body to be copied and the hoop partially filled with liquid plaster of Paris. Pressure is then made with a piston, fitting in the opposite side of the hoop, and continued until the plaster sets. The cast is separated from the rubber sheet, and upon it a reverse is formed of metal or other substance suitable for the intended use.

Claim.—The described apparatus, consisting of piston E, mould A, and elastic diaphragm B, arranged in relation to each other, and for the purpose of forming pads, as set forth.

No. 32,774.—DENNIS LANE, of Plainfield, Vt.—*Improved Method of Setting the Log in Saw-mills.*—Patent dated July 9, 1861.—This invention does not admit of a brief description.

Claim.—The employment or use of the ratchets H I J K, having teeth at different distances apart, in connexion with the adjustable dog P, placed on the rod O, which is provided with retaining pins *h*, the ratchets being placed on the shaft F, having pinions G G at its ends which gear into racks D D, attached to bar C, all being arranged as and for the purpose set forth.

No. 32,775.—W. B. LE VAN, of Philadelphia, Pa.—*Improvement in Water Gauges for Steam Boilers.*—Patent dated July 9, 1861.—In this instrument a measuring rod is held in a central position within the glass tube. It is alleged that a tube provided with the rod is not liable to be broken, and that it is readily cleaned.

Claim.—First, so arranging the valve, in respect to the internal rod I, that the centre line of one shall coincide, or nearly coincide, with the centre line of the other when the rod or valve, or both, are so constructed that the valve can be operated without disturbing or being disturbed by the rod, as set forth.

Second, so constructing the valves G, in respect to the said internal rod, or the rods, in respect to the valves, that the latter can be operated without disturbing the former, as set forth.

Third, the hollow branch *b*, of the steam-chest A, combined and arranged, in respect to the opening of the valve G, as set forth, so as to afford ready access to the interior of the glass tube, as specified.

No. 32,776.—E. H. LEWIS, of Wilbur, N. Y.—*Improvement in Machines for Polishing Stone.*—Patent dated July 9, 1861.—The stone to be polished is laid upon a revolving table, across which an arm projects, which has a reciprocating motion. The combined movement of the table and arm is designed to prevent grooves and ridges in the stone when finished.

Claim.—The arrangement of the double-armed reciprocating bar I, eccentric G, shaft B, and gear wheel C, with the rotary plate F, shaft E, and pinion D, in the manner and for the purpose shown and described.

No. 32,777.—JOHN MILLER, jr., of Baltimore, Md.—*Improvement in Machines for Making Paper Bags and Boxes.*—Patent dated July 9, 1861.—The paper, cut in strips of the desired width, is fed from a table to cutters of suitable size. The paper thus cut off is forced through a mould by a piston, and the glue applied by circular brushes. Clasps or bars receive a box from the piston, and hold it in shape until the next box comes forward, thus giving a little time for the cement to set or dry.

Claim.—First, the combination of the cross-head L, lever F, rock-shaft D, adjustable arm C, and fingers B, constructed and operating substantially as explained, to impart an intermittent feed movement to the strips of paper.

Second, the cutter G, constructed as shown and described, and operating in connexion with an intermittent feeding device, substantially as and for the purpose set forth.

Third, the mould or folder N, constructed as described, and operating in connexion with a suitable plunger, substantially as and for the purposes set forth.

Fourth, the combination of the rotary brush O, fountain P, and pressure cams T, operating to paste or glue the boxes while passing through the moulds, as explained.

Fifth, the spring clasps U V, applied beneath the moulds N, employed to hold the joints of the boxes until set, as explained.

No. 32,778.—WILLIAM MILLER, of Boston, Mass.—*Improved Fire-Escape.*—Patent dated July 9, 1861.—This apparatus is attached to suitable wheels or trucks, and is elevated by a pinion in the cross-bar of the truck, and a circular rack fastened above a hinge or joint near the base of the ladder. The sides of the ladders, which are in three or four sections, are parallel and tubular; they slide into each other, the lower section being the largest. Longitudinal slots cut through the whole length of the tube allow the rounds to pass freely, either up or down.

Claim.—Having the ladders of fire-escapes made of slotted tubular metal, and rounds arranged and operating, in respect to each other, in the manner shown and described.

The combination of the curved rack E, with the hinged ladder D, operating pinion *c*, and platform A, substantially in the manner and for the purpose shown and described.

No. 32,779.—J. W. D. F. MOON, of Coventry, N. Y.—*Improvement in Thills for Vehicles.*—Patent dated July 9, 1861.—A socket-piece, having a T-shaped hole through it, is secured to the axle of the carriage; a projecting piece of iron hooked upon each side forms the end of the thills. This can only be put into the socket when the thills are elevated, and, when depressed to the position for draught, the T-shaped piece draws against the socket-piece, the thills being thus securely attached.

Claim.—The projecting hook or key *f*, or its equivalent, on the rear end of the thill iron B, fitted into and passing through the opening *e*, in the socket iron A, substantially in the manner and for the purpose set forth.

No. 32,780.—F. A. MORLEY, of Sodus Point, N. Y.—*Improved Steering Apparatus for Vessels.*—Patent dated July 9, 1861.—The bearings upon which the horizontal screw rests are fitted with grooves and slides to allow a slight vertical motion to the rudder.

Claim.—The combination of the screw and connecting piece D, and single nut E, screw and connecting piece D, moving longitudinally and in an opposite direction to nut E, for operating the rudders of vessels, substantially as described.

And, in combination with the above, the guides and grooved boxes G G, to accommodate the upward motion of the rudder, as explained.

No. 32,781.—F. A. MORLEY, of Sodus Point, N. Y.—*Improvement in Potato Diggers.*—Patent dated July 9, 1861.—This machine is intended to perform both the digging and separating, and at the same time be self-rotating. This is effected by setting the digging teeth (which form the forward end of a cylinder made of bars of iron arranged in a spiral position) at such an angle as will cause the cylinder to revolve as it is drawn forward and sift out the dirt, while the potatoes and vines fall to the ground from the rear of the cylinder.

Claim.—The combination of the spirally arranged teeth I, with the adjustable spirally slotted cylinder A, constructed and operating in the manner described, for the purpose specified.

No. 32,782.—B. F. NORTON, of Manchester, N. H.—*Improvement in Sewing Machines.*—Patent dated July 9, 1861.—This improvement on the chain-stitch sewing machine relates chiefly to the short arm of the needle-bar, which is bent at an angle with the main arm, and

slides in adjustable guides to give a feeding motion and govern the length of the stitch, the needle-holder being jointed to the end of the needle-bar.

Claim.—The needle-bar F F', bent laterally, as shown in Fig. 5, jointed needle-carrier L, adjustable guide H, set screw M, and spring N, operating in combination beneath the table *o*, the whole constructed and arranged substantially as and for the purposes set forth.

No. 32,783.—LUCIUS PARKER, of Manchester Station, Conn.—*Improvement in Railroad Car Brakes.*—Patent dated July 9, 1861.—A bevelled wheel and pinion operated by the brakemen turns a horizontal shaft, around which a chain is wound and elevates a suspension weight. When the mitre wheel is out of gear the weight falls, and attached short arms or levers pull upon the chains that bring the shoe into contact with the wheels.

Claim.—First, the combination of the self-adjusting spring bearings D with the main shaft C, substantially in the manner and for the purposes shown and described.

Second, the employment of the adjustable weight H, in combination with the main shaft C, lever F, shaft G, and the shoes K N, in the manner and for the purposes shown and described.

Third, the general arrangement, together and with each other, of the above-specified parts, as shown and described.

No. 32,784.—HENRY RAWSON, of Leicester, England.—*Improvement in Machines for Combing Wool.*—Patent dated July 9, 1861.—This invention consists in the combination of parts before known and used for separating the long from the short fibres of wool. The main features cannot be set forth in a brief description.

Claim.—First, combining a comb *z*, worked as described, with a comb *a* and a comb *q*, substantially as described.

Second, the combining of a comb *q* with a comb *z*, and bars or plates *r*, substantially as described.

No. 32,785.—CHARLES RAYMOND, of Brattleboro', Vt.—*Improvement in Sewing Machines.*—Patent dated July 9, 1861.—In this lock-stitch machine the looper is pivoted to two short vibrating levers, so that, while the axis of the looper moves in the arc of a circle around the axis of one of the levers, its point is thrown inwardly towards the lever axis as it advances, and then outwardly from it as it recedes, and at an accelerated rate of motion as compared with that of the axis of the looper. Eyes formed in the looper cause the bearing-off hook to bear against the loop of the needle thread; the needle goes down without passing through the loop, but passes between the looper and the thread which it carries that is pressed outward by the hook into the path of the needle at the same instant that it pushes the aforesaid loop of the needle-bearing thread away from the path of the needle.

Claim.—The bearing-off hook *g*, when it is arranged in such a manner with relation to the looper *b*, that the said parts are enabled to co-operate with each other in the formation of lock-stitches, substantially in the manner set forth.

No. 32,786.—Suspended.

No. 32,787.—EDMUND RUSSEL, of Brooklyn, N. Y.—*Improvement in Oscillating Steam Engines.*—Patent dated July 9, 1861.—In this engine the common trunnions or gudgeons are dispensed with, and the cylinder, which is vertical, is supported by a strong spring of one or more leaves connecting the base of the cylinder with the frame. A lever, rod, and fixed pin are so connected as to correspond to the peculiar motion of the cylinder and work the valves.

Claim.—The spring *f*, applied as a means of connecting the cylinder to the frame of the engine and allowing for the oscillation, in the manner and for the purposes set forth.

Also, the arrangement of the valve *m*, stem *i*, and the induction and eduction ports 1 2 and 3, in the oscillating cylinder, applied as and for the purposes specified.

No. 32,788.—J. A. SABBATON, of New York, N. Y.—*Improvement in Dry Gas Metres.*—Patent dated July 9, 1861.—The construction of this invention cannot be explained without full drawings and detailed description.

Claim.—The combination of a series of flexible diaphragms with a conical valve having an inlet passage at one of its heads, and an outlet passage at its other head, two lateral ports communicating respectively with the inlet and outlet passages, and turning in a conical valve-seat fitted with as many ports as there are chambers in the metre, the whole arranged and operating substantially as described.

Also, the combination of the said valve and valve-seat with an enclosed inlet passage, a supplementary port in the valve-seat, and a supplementary passage in the valve, substantially as described.

Also, the combination of the stems of the flexible diaphragms with conical stoppers and stopper-seats, substantially as described.

No. 32,789.—B. SEGNITZ, of New York, N. Y.—*Improvement in Trachea Tubes.*—Patent dated July 9, 1861.—The object of this invention is to administer expectorant medicines

directly to the trachea or to the nasal organs. The medicines are placed in the tube and it is inserted into the mouth, its flaring end being directed either to the trachea or nasal organs as may be desired, the curved form of the tube allowing this change of direction. The medicines are then administered to the parts by blowing into the mouth-piece, which is made adjustable so that it can be directed upwards whatever may be the direction of the tube.

Claim.—A trachea tube constructed with a central tube A, curved flaring double-channelled terminus B, and an adjustable mouth-piece C, substantially as shown and described.

No. 32,790.—CHRISTIAN SHARPS, of Philadelphia, Pa.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated July 9, 1861.—This device relates to the mode of locking and releasing the lever which moves the barrel back and forth upon the stock slides. A common spring catch inserted in the stock holds the swinging lever in place when the gun is charged, and the lever released by pressure on the curved end of the catch that projects below the stock.

Claim.—The spring dog Q, with its projections q and q', in combination with the projection t of the guard lever C, when the said projection q' is situated in respect to the under side of the stock and the bent end of the said guard lever, as and for the purpose set forth.

No. 32,791.—DANIEL SHERWOOD, of Lowell, Mass.—*Improved Coffee Strainer.*—Patent dated July 9, 1861.—In this invention the common basket-shaped strainer is suspended from the spring that is slipped into the open end of a tea or coffee pot.

Claim.—The wire spring C, formed as shown, and attached to the strainer A, for the purpose set forth.

No. 32,792.—JOHN SIMS, of Boston Corners, Mass.—*Improvements in Combined Seed-Drill and Cultivator.*—Patent dated July 9, 1861.—This is a combination of seven different parts, for planting seeds mixed with fertilizers. The position and relation of the parts does not admit of brief description.

Claim.—The arrangement of the fork L, slide J, rock-shaft F, and seed box E, in combination with a drill plough O, coverer P', and rake R, for the purposes and substantially as described.

No. 32,793.—HENRY R. SLOAT, of Sloatsburg, N. Y.—*Improvement in Farm Gates.*—Patent dated July 9, 1861.—The gate is suspended by means of two vertical pins, inserted on each end of the long bar of the gate, one of which bears in a projection upon the gate post, and the other in the long slot of the lever D, pivoted by its centre to the upper part of the post. On pulling one of the cords suspended from the ends of lever j j, in reach of a person in a carriage or on horseback, the lever D will throw the gate out of plumb, when it will swing back by its own weight, and will be retained by a catch. The gate is closed in the same by pulling the opposite cord.

Claim.—The combination of the devices described, as shown in Fig. 1, for the purpose of opening and closing a gate in the manner substantially as set forth.

No. 32,794.—BARZILLAI C. SMITH, of Burlington, N. J.—*Improvements in the Construction of Railways.*—Patent dated July 9, 1861.—This railway consists of two or more rows of cast-iron girders, each consisting of a broad plate with a longitudinal rib above, forming the rail for receiving the car wheels, with longitudinal strengthening ribs below, these ribs being bedded into, and the plate or body of the girder being placed on the ground in order to prevent tilting and latteral or vertical displacement, and thus dispensing with the use of sleepers, chairs, and spikes.

Claim.—A railway composed of two or more cast-iron girders, each girder consisting of a broad plate, with the longitudinal strengthening flanges b b below, and a longitudinal rib a above, when the body of the girder is bedded on to, and the strengthening flanges into the ground, as described, for the purpose of preventing all liability of the rails to tilt, or to be displaced laterally or vertically, and in order to form a cheap and permanent railroad without the aid of sleepers, chairs, and spikes, as set forth.

No. 32,795.—CHARLES K. SOULE, of Fairfield, Vt.—*Improved Horse-Rake.*—Patent dated July 9, 1861.—The lower ends of the teeth of this rake are bent backward nearly to a horizontal position, to prevent them from catching in the ground, the rake being hung to the frame by an adjustable plate, by means of which the angle that the teeth make with the ground can be regulated, and allow the bent part of the teeth to run just below the level of the top of the stubble. In some cases the inventor prefers to use small balls or knobs, fastened to the base of the common curved teeth.

Claim.—First, in hay rakes that are supported upon their teeth, having the extremities of the teeth made or bent, substantially as shown and described, so as to form an enlarged bearing surface, and prevent the teeth from digging into the ground, all as set forth.

Second, the movable or adjustable plate H, having the shoulder or catch h at its under side, in connexion with the lever I and arm i, or their equivalents, attached respectively to the plate and shaft, to admit of the adjustment of the rake teeth D, to a greater or less pitch or inclination, as may be required, and the facile liberation of the rake, to admit of its revolving, as set forth.

No. 32,796.—LEVI B. SOUTHWORK, of Deep River, Conn.—*Improvement in the Teeth of Saws.*—Patent dated July 9, 1861.—The nature of this invention is fully shown by the claim.

Claim.—The forming of the teeth *a* of circular saws, by having the points 2 of the teeth inclined at an angle of about 45° with the radial edges thereof, said points being expanded or having a burr 3, formed by burnishing, so as to increase the width of the cutting edges, when said points 2, thus formed, are used in connexion with the double basil at the oblique edges 4 of the teeth, as and for the purpose set forth.

No. 32,797.—ERASTUS STEBBINS, of Chicopee, Mass.—*Improvement in Faucets or Cocks.*—Patent dated July 9, 1861.—The object of this invention is to dispense with the use of a spring, and open and close the valve by a screw alone. This is effected by a packing of sheet rubber attached to the screw stem, which prevents the water, when the cock is open, from escaping at the threads of the screw. The rubber diaphragm is held by collars, and is slightly distended as the valve-stem rises.

Claim.—Connecting the valve C to the screw-shaft F, by means of the collar E, which is screwed on the cylinder *f* of the valve C, and is connected to the lower end of shaft F by the flange *j* and recess *k*, when said collar is used in connexion with the packing *h*, secured to cylinder *f*, and fitted between the cap D and the box or projection *d* of the tube A, substantially as described.

No. 32,798.—WILLIAM O. STODDARD, of Champaign, Ill.—*Improved Printer's Chase.*—Patent dated July 9, 1861.—The object of this invention is to admit of the adjustment of one chase to any sized form of type smaller than the largest capacity, thereby dispensing with several intermediate sized chases and all the wooden or metallic filling and packing known as furniture.

Claim.—The application of the right and left screws working simultaneously upon side sticks, and the side sticks interlocking as shown, and the combination of the screws and side sticks in this chase.

No. 32,799.—STEPHEN SWEENEY and STEPHEN PARKS, of Rome, N. Y.—*Improvement in Double-Seaming Sheet Metal.*—Patent dated July 9, 1861.—The end of the roller *a* is formed with a swaging and bending surface, that is a groove and an inclined or curved flange merged into each other. The inclined surface of the flange bends over the double seam, and the groove swags it.

Claim.—In machines for double-seaming sheet metal, the groove *g* on the roller *a*, when the said groove terminates on its outer edge in the elevated portion or inclined flange *h*, in combination with the conical roller *b*, as and for the purpose set forth.

No. 32,800.—N. G. SWIFT, of Hart's Village, N. Y.—*Improvement in Machines for Sowing Pulverulent Manures.*—Patent dated July 9, 1861.—Within the hopper is placed a roller or rollers arranged with adjustable sliders and scrapers, whereby the discharge of the manure may be regulated as desired, and the portions of manure may adhere to the rollers scraped off at such a point as not to affect the equal distribution of manure over the field. The hopper is so arranged that the rollers may be readily thrown in and out of gear with the driving wheels.

Claim.—First, the combination of the hopper E, the roller or rollers J, slides Q, scrapers O O, and pressure-bar M, all arranged for joint operation, as and for the purpose set forth.

Second, suspending the hopper E to the axle A, by means of the rods F F and H, arranged substantially as shown, whereby the wheels K L may be readily thrown in and out of gear, and the rollers J J consequently rendered operative or inoperative, as may be desired.

No. 32,801.—A. H. TREGO, of Lambertville, N. J.—*Improved Device for Pulleying Horses.*—Patent dated July 9, 1861.—This invention consists of an apparatus for keeping the tail of the horse in an elevated state after nicking, which is applied wholly to the animal, and so arranged as not to interfere with his natural movements, instead of the usual method of attaching to the tail a cord, which passes over an elevated pulley at the back of the stall, and having a weight secured to its end.

Claim.—The employment or use of a breeching B applied to a horse in connexion with bars *a a*, or their equivalents, an upright or pulley support *j*, and a loaded cord *l*, and forked rod *r*, so arranged as to admit of the pulleying or elevating of the horse's tail, substantially as set forth.

No. 32,802.—A. K. TUPPER, of Pontiac, Mich.—*Improvement in Gas Retorts.*—Patent dated July 9, 1861.—This invention consists in the construction of a retort for making illuminating gas from rosin, oil, or other substance which can be introduced in a liquid state, with two upright chambers side by side, one of which, having the feed pipe attached, contains a series of partitions inclined longitudinally in opposite directions alternately, and provided with openings to allow the liquid substance to run from one to the other, from the top to the bottom of the series, so that all may be converted into gas or vapor before passing by an opening near the bottom of the other chamber, to which is connected the outlet-pipe, and in which the decomposition of the vapors is completed.

Claim.—The combination in the retort of the upright partition *a*, the reversed inclined partitions *d* d^1 d^2 on one side of *a*, and the chamber B, without partitions on the opposite side of it, all substantially as specified.

No. 32,803.—JAMES L. VAUCLAIN, of Lafayette, Ind.—*Improvement in Car-Axle Boxes.*—Patent dated July 9, 1861.—On the front vertical edges of the axle box are lips or flanges, inside of which are grooves diminishing in size toward their lower ends so as to receive and retain the edges of a wedge-formed cap, which is inserted from above, by which means the cap may readily be removed for greasing and inspection of the journals.

Claim.—The provision of a wedge-formed cap C D and tapering grooves B to a car-axle box, for the objects specified.

No. 32,804.—JOSEPH C. WIGHTMAN, of Boston, Mass.—*Improvement in Gas-Cocks.*—Patent dated July 9, 1861.—This invention is explained by the claim.

Claim.—The construction of a cock or stop for gas or air of two cylinders joined together, and with a communicating passage between them, one of said cylinders being furnished with an adjustable plunger or displacer, and a mercury cup, by means of which the flow of gas through the other may be regulated in quantity or entirely stopped, the whole being constructed, arranged, and operating as set forth.

No. 32,805.—J. B. WILSON, of Williamstown, N. J.—*Improvement in Preserving Vessels.*—Patent dated July 9, 1861.—Ante-dated June 20, 1861.—The rollers are formed by turning them down inside the collars, and leaving shoulders for the ends of slats to rest upon. The part thus turned down is then filled with some elastic material as a support for the slats, which are then placed on it, their ends resting on the shoulders. Over this roller is then placed a fluted or roughened elastic ring.

Claim.—The disc H, with its gum-elastic ring, the bolt J, with its cross-bar K and nut M, and the yielding washer L, the whole being constructed substantially as described and combined with the tapering mouth of the vessel, as set forth.

No. 32,806.—JOHN YOUNG, of West Galway, N. Y.—*Improvement in Washing Machines.*—Patent dated July 9, 1861.—This invention consists of a metal disc, with a ring of gum elastic stretched round its edge, a bolt passing through the said disc, and having below the latter a cross-bar, and a nut above, a yielding washer interposed between the said cross-bar and the disc, all combined with the tapering mouth of a vessel provided with horizontal shoulders and recesses below for the reception of the cross-bar.

Claim.—The rollers D D, provided with elastic material *g*, the spring slots *i*, and grooved or roughened elastic rollers I, the whole constructed and operating substantially as described, and for the purposes specified.

No. 32,807.—MCCLINTOCK YOUNG, jr., of Frederick, Md.—*Improvement in Harvesting Machines.*—Patent dated July 9, 1861.—On the axle is supported a frame to which the tongue is attached, and to the tongue, at a point forward of the axle, is connected by a link a beam that passes underneath the axle and thence rearward, to support the platform, cutting apparatus, rake, &c., so that they may rise and fall in conforming to the surface of the ground independently of each other. The finger-bar is made in two sections of different lengths, the long section being attached to the main frame, and the short section to the platform, so that when the platform is removed to convert the machine into a grass-mower, the finger-bar shall be shortened in length to the extent of the short section attached to the platform.

Claim.—First, connecting the finger-bar of a grass-harvesting machine to the main frame by means of a beam F linked or hinged to and drawn by the tongue, and prevented from swaying laterally by the brace *c* and main frame D, as set forth.

Also, in combination with said beam F, so hung and supported, a platform, rake, and rake mechanism, arranged and connected thereto, to operate as set forth, for converting the machine into a self-raking grain-harvester, substantially as described.

Also, making a finger-bar into two sections, one long one and one short one, the short section being connected to the platform, and removable with it, so that as the platform is attached, to adapt the machine to harvesting grain, or removed to adapt it to the cutting of grass, the finger-bar shall be correspondingly lengthened and shortened, as has been found advantageous in harvesting the different materials, substantially as described.

No. 32,808.—C. C. COE, of Rome, N. Y., assignor to Himself and G. S. COTTMAN, of the same place.—*Improvement in Vapor Lamps.*—Patent dated July 9, 1861.—This lamp is designed for burning hydrocarbon oils without a chimney. The upper end of the wick tube terminates in a cup or pan having sides, to prevent the overflow of the oil brought up on the wick, which oil becomes united, and creates a sufficient degree of heat to raise the temperature of the cup to a point sufficient to vaporize the oil, when the flames retreat from the lower part of the cup and are confined to its upper edge. With the gas-generating cup is combined a pervious cylinder, and an outer casing for the purpose of producing an illuminating flame.

A sliding valve is made to move over the end of the wick, to remove the crust from the same, and prevent the escape of vapors from the lamp when extinguished.

Claim.—First, in combination with the pervious cylinder and wick tube, the gas-generating pan or cup, substantially as described and for the purpose set forth.

Second, combining with the gas-generating cup the pervious cylinder, burner, outer casing fender and passage ways, substantially as described and for the purpose set forth.

Third, combining with the wick tube and cup the valve *n*, substantially as and for the purpose described.

No. 32,809.—JOHN FOWLER, jr., of London, England, assignor to WILLIAM PENN TATHAM, of Philadelphia, Pa.—*Improvement in Machinery for Ploughing and Tilling Land.*—Patent dated July 9, 1861.—Patented in England July 14, 1858.—This invention relates to that class of machinery for ploughing by steam in which a locomotive steam engine moves at given intervals along one edge of the field, and ropes pass from the engine to and around a pulley in an anchor, which is moved at intervals along the opposite edge of the field, the said ropes being attached to ploughs to draw them across the field alternately in opposite directions, and the invention consists in a method of mounting two drums on the ploughs, on each of which a portion of the hauling rope is wound, so that they will take up the slack of the rope behind them, the drums being usually turned by manual power.

Claim.—Mounting on ploughs or other tilling instruments an apparatus for taking up the slack rope by the pull of the rope drawing the ploughs or other tilling instruments, substantially as described.

No. 32,810.—JOHN FOWLER, jr., of Havering, and WILLIAM WORBY, of Ipswich, England, assignor to WILLIAM PENN TATHAM, of Philadelphia, Pa.—*Improvement in Machines for Tilling Land by Steam.*—Patent dated July 9, 1861.—Patented in England July 10, 1856.—The carriage can be easily moved backwards or forwards by means of the wheels, but at the same time they sink into the ground to a sufficient depth to present the required resistance to the lateral strain of the rope in drawing the tilling instruments.

Claim.—Mounting an anchoring carriage on discs or wheels sufficiently thin at the periphery to cut or sink into the land, substantially as described.

No. 32,811.—CH. FROELICH, of New York, N. Y., assignor to PHELAN & COLLENDER, of the same place.—*Improvement in Tivoli Tables.*—Patent dated July 9, 1861.—This invention consists in the arrangement of an endless chain of fingers acting upon a number of balls, in combination with a series of channels above and below the perforated table, and with levers operated upon by buttons in such a manner that by successively depressing the buttons, one ball after another is caused to roll on the table and descend back to the starting point, while, at the same time, one of the balls remaining in the gutter below is taken up by one of the fingers, thereby enabling the player to proceed without interruption.

Claim.—First, the arrangement of the hinged levers H operated upon by buttons J, in combination with the endless chain G, with fingers *f*, and with the channels *h' a b*, substantially as and for the purpose set forth.

Second, the arrangement of the secondary chain L, with figures *n*, in combination with the spiral channel M, and with the chain G, all constructed and operating substantially as and for the purpose specified.

Third, the arrangement of the sleeve I, rod *r'*, plate *r*, and rod *q*, in combination with the spring dogs *j* and *p'*, chains G and L, and with the hinged levers H, constructed and operating substantially as and for the purpose described.

No. 32,812.—A. C. STILES, of Bunker Hill, Wis., assignor to Himself and AMOS EWBANKS, of the same place.—*Improvement in Seeding Machines*—Patent dated July 9, 1861.—The novelty of this invention consists in the arrangement of the parts as specified in the claim, the machine being designed for sowing seed in hills, in check rows, and the object of the improvement is to prevent the choking of the seed-distributing device, and to insure the seed being dropped at suitable points. Also, to effect the ready adjustment of the furrow and covering shares, as well as the proper compacting of the earth on the seed, and the marking of the hills.

Claim.—The arrangement of the adjustable curved segment bars or share-carriers N N, slides J, lever frame K, spring ratchet cylinder D, and tappet wheel H, with each other and with the tubes L, adjustable segment bars or share-carriers R, springs W, and stampers V, the whole constructed and operating together, as and for the purpose shown and described.

No. 32,813.—JOSEPH RECKENDORFER, of New York, N. Y., and JOHN C. RICHARDS, of Brooklyn, N. Y.—*Improved Envelope.*—Patent dated July 9, 1861.—This invention consists in passing the end of the flap through a loop formed by slits cut in the back of the envelope, the loop being gummed to the flap so as to present the end of the flap to be pulled and the ends of the loop to be torn on opening the letter.

Claim.—The improved self-sealing envelope, looped and gummed in the manner described, so as to possess the advantages set forth.

No. 32,814.—WILLIAM F. ARMSTRONG and MORGAN PAYNE, of Cardington, O.—*Improvement in Churns.*—Patent dated July 16, 1861.—The dashers are secured to rods which pass through the shaft by means of set screws, so as to be adjusted at any desired angle, the cream being elevated by some of the dashers and depressed by others.

Claim.—The peculiar arrangement of the dashers or wings upon the shaft C C, as and for the purpose set forth.

No. 32,815.—BENJAMIN ARNOLD, of East Greenwich, R. I.—*Improvement in Filters.*—Patent dated July 16, 1861.—The tube above the elastic bulb is provided with a filter, through which the water is forced, and is furnished at each end with a hollow screw, so that the direction of the current may be reversed, to free the filter from dirt when necessary.

Claim.—The arrangement of the elastic bulb A with the valves *a b*, filter C, and tubes B D, substantially as described and for the purpose set forth.

No. 32,816.—VARNUM G. ARNOLD, of Providence, R. I.—*Improved Shirt Stud and Button Fastening.*—Patent dated July 16, 1861.—On the inside of the button or stud is a tubular projection, which contains a spiral spring that acts upon a cam-shaped spring lever, pressing it against the inside of the garment and holding the button or stud close up to the outside.

Claim.—First, the combination of the lever B, spring *a*, with the barrel A, substantially as described, for the purposes set forth.

Second, a stud or button fastening made with holes, substantially as described, for the purpose of being attached to a button, as a new article of manufacture.

No. 32,817.—A. L. BAYLEY, of Amesbury, Mass.—*Improvement in Steam Traps.*—Patent dated July 16, 1861.—To the side of the valve-box, opposite the water-escape pipe, is screwed a short pipe, upon the outer end of which is secured a stud that carries a pin working in the shorter arm of a lever, the longer arm passing through a slot in the valve-stem. The expansion of the water pipe, when it contains steam, causes a motion of the lever which closes the valve, and its contraction, when it contains water, causes the valve to open.

Claim.—The arrangement, in the manner shown and described, of the double-armed lever F and bracket E with the valve B, valve-box A, and pipes C D, for the purpose set forth.

No. 32,818.—GEORGE N. BEARD, of St. Louis, Mo.—*Improvement in Iron Ties for Cotton Bales.*—Patent dated July 16, 1861.—The cleat or button is made longer than the loophole into which it locks. One end or horn of the cleat being longer than the other, it can readily be inserted long end first, when it is securely held.

Claim.—The shape and proportion of the cleat *c*, with respect to the loophole *d*, substantially as described, for the purpose specified.

No. 32,819.—A. W. BRINKERHOFF, of Upper Sandusky, O.—*Improvement in Shoes for Seed-Planters.*—Patent dated July 16, 1861.—The part of the shoe which acts as an opener is constructed of two sheets of steel with upwardly curved front edges, and welded together to a point about two inches above the ground, when they gradually diverge. In the rear of the opener is the coverer, made with expanding wings, and elevated above the ground to conform to the opening in the opener, and converging rearward until they conform to the width of the rear end of the opener.

Claim.—The combination and arrangement of opener M and coverer P, constructed substantially as described and for the purposes set forth.

No. 32,820.—C. A. CODDING, of Augusta, Mich.—*Improved Cheese Press.*—Patent dated July 16, 1861.—Within a perforated metal cylinder is fitted, so as to work freely up and down, a hollow cylindrical plunger provided with a perforated bottom, and a tube secured centrally within it. When the plunger is pressed down, the whey readily escapes from the curd through the perforation, and a free circulation of air is obtained.

Claim.—First, the perforated cylinder or curb A, in combination with the hollow cylindrical plunger C, provided with the perforated bottom *g* and side openings *i*, arranged to operate as and for the purpose set forth.

Second, having the hollow plunger C doubled or turned over at its upper end, and provided with a wire or rod *j*, in connexion with the central tube D, and having the cylinder or curb A secured to a hollow base B, which is provided with a central tube *d*, all being arranged as shown, for the purpose of rendering the cylinder or curb and plunger firm and durable, as set forth.

No. 32,821.—G. A. CORSER and A. O. BUNDY, of Clappville, Mass.—*Improved Skate.*—Patent dated July 16, 1861.—Secured to the centre of the under part of the foot-stand is a semi-elliptical spring, the ends of which rest on the shoulder portion of studs on the runner. The foot-stand is also provided with projections, which fit into the slotted studs on the runner. By means of pins the ends of the runner, or either of them, may be secured rigidly to the runner.

Claim.—The arrangement of the double-armed and centrally attached spring G, with the foot-stand A and runner B, in the manner shown and described.

Also, the locking of the ends of the foot-stand, or either of them, in the manner shown and described, so as to throw the entire elasticity of the spring upon either end of the runner, or relieve both ends from the spring at pleasure, as set forth.

No. 32,822.—S. G. CRANE, of Rochester, N. Y.—*Improved Combination of Camp Bed and Chair.*—Patent dated July 16, 1861.—This invention consists of three frames pivoted together, on which a canvas is stretched, and so constructed and arranged as to be readily made to serve the purpose of a camp bed or chair.

Claim.—The combination of the frames A and B with the pawls and cross-rods *d*, the adjustable roller and head *h*, the graduated extension C, by the key P and plates *r*, substantially as and for the purpose specified.

No. 32,823.—A. DOIG, of Brooklyn, N. Y.—*Improvement in Cooling Frictional Surfaces.*—Patent dated July 16, 1861.—This invention is explained by the claim.

Claim.—The combination and arrangement of a journal-box for the heavy shafting of steam engines, formed with an interior webbing and hollow spaces, constituting a cellular journal-box, with water chambers to cool the frictional surfaces, substantially as and for the purpose set forth.

No. 32,824.—JOHN W. DOUGHTY, of New York, N. Y.—*Improved Self-regulating Feed-Water Apparatus for Steam Boilers.*—Patent dated July 16, 1861.—The hollow piston, with its orifices at top and bottom, is so arranged in relation to the piston, race, and feed-pipe, that upon each stroke of the piston in its reciprocating motion a quantity of water is introduced into the feed-pipe equal to the capacity of one of its trunks, and an equal volume of air or steam taken from the boiler, the water continuing to rise in the boiler until it covers the end of the water-line pipe, the latter terminating in the feed-pipe above the piston; no more water will then enter the boiler, because the air or steam cannot escape. By means of this device valves are dispensed with, and the water conducted into the boiler without acting against the pressure of steam, the feed-water apparatus being self regulating.

Claim.—First, the hollow piston A A', having in the top and bottom the orifices *a a'*, as described.

Second, the piston race B *b*, in which the piston A A', by its reciprocating motion, brings the orifices *a a* alternately in a line with the orifices *e e'* and the axis of the feed-pipe F F, as described.

Third, the induction pipe E E', by which the water is made to enter the piston through the lower orifice *e'* of the piston race, as described.

Fourth, the water-line pipe W W, which, having its lower end on the water-line of the boiler and the other end terminating in the feed-pipe F F above the piston A A', establishes an equilibrium of the pressure about the piston, and, at the same time, makes the feed-water apparatus self-regulating, by allowing the piston to discharge its contents into the feed-pipe whenever the water gets below the water-line, as described.

No. 32,825.—A. P. DURANT, of Atlanta, Ill.—*Improvement in Seeding Cultivators.*—Patent dated July 16, 1861.—A suitably arranged frame is made to carry a self-acting sower in front that may be regulated by the driver, and a corn-planter behind that may be hung up to the frame out of the way when not in use. The ploughs are also arranged so as to be readily lifted from the ground, or shifted to either side to conform to the irregularities of the rows.

Claim.—The combination of a seeding machine, a corn-planter, and a cultivator in a single machine, arranged and operated in the manner described, and for the purposes specified.

Also, in combination therewith, the attachment of the cultivator ploughs to a separate frame that may be shifted transversely by a lever when desired, substantially in the manner described.

No. 32,826.—ANTHONY L. FLEURY, of Philadelphia, Pa.—*Improvement in the Manufacture of Iron.*—Patent dated July 16, 1861.—The process claimed in this invention consists in introducing a charge of pig or cast iron or ore into an ordinary pudding furnace, and subjecting it to the action of heat in the usual manner. When the mass boils an electric current is caused to pass through it, and at the same time nitrogenized hydrogen or a nitrogeneous salt is introduced. By this means the chemical affinity by which the impurities are bound to the iron is destroyed, and the impurities are thrown to the surface.

Claim.—The method described of treating iron, consisting substantially in destroying the chemical affinity by which the impurities are bound to the iron, by submitting the latter, while in a boiling state, to the simultaneous action of nitrogeneous substances and electricity, in the manner set forth.

No. 32,827.—JOSEPH EVANS, of San José, Cal.—*Improvement in Pruning Shears.*—Patent dated July 16, 1861.—The outer ends of the shears are connected by links to an adjustable rod that extends down the pole, the lower end of the rod being connected to a trigger by a link. Upon pressing the trigger with one hand the shears are made to close. The trigger is kept open by a spring on the handle.

Claim.—The arrangement of the trigger D and the adjustable rod C, in combination with the shears A and pole B, constructed and operating in the manner and for the purpose set forth.

No. 32,828.—JOHN Q. A. FRAZIER, of Piqua, O.—*Improvement in Harvesters.*—Patent dated July 16, 1861.—Immediately in the rear of the fingers is situated an endless apron, under which and so near as to allow the rake to pass in a trailing or horizontal position between is a shield of equal width with the apron, for the purpose of protecting the apron from injury and serving as a guide, by which the rake is turned and held in its trailing position. On the rear side of the endless apron is jointed, so as to turn vertically, the gravel rake, which is operated by a transverse ledge or bar secured in the rear of the platform rake to the endless apron. The platform is composed of a number of slats, the ends of which at the right hand side are jointed to the ends of adjusting standards secured to an adjustable plate, having at each end a slot, through which passes a tightening screw. The opposite ends of the slats are also secured to an adjustable plate, by which means the whole platform or either end may be raised as circumstances require.

Claim.—The arrangement and combination of the shield M, endless apron J, platform rake L, ledge O, and gravel rake N, provided with the arm *v* and projection *x*, substantially as and for the purposes specified.

Also, the platform composed of slots P P P, connected with the adjusting plates T and U, whereby said platform is capable of being adjusted up and down in a horizontal position or angularly, as may be desired, substantially as described.

No. 32,829.—BENJAMIN F. GOLD, of Reading, Pa.—*Improved Cooking Stove.*—Patent dated July 16, 1861.—This invention consists of a series of devices, the construction and operation of which do not admit of a brief description.

Claim.—First, the arrangement, substantially as herein described, of the oven chamber H, hot-air chamber G, and fire pot J, the whole being enclosed by double plates packed with suitable non-conducting material, as set forth for the purpose specified.

Second, the regulating dampers *l*, arranged in front of the stove in respect to the fire-chamber, the oven, and the flues above the same, as specified.

Third, the fenders X and X′, packed with non-conducting material, and the shelves 2 and 4, the whole being arranged within the oven chamber in respect to each other and the fire-pot, substantially as set forth.

Fourth, making the shelves with corrugations increasing in width and depth, for the purpose specified.

Fifth, the deflectors 5, on the under side and near the front edge of the upper shelf, for the purpose described.

Sixth, the tapering fire-pot J, composed of two cylinders communicating with each other from top to bottom, said fire-pot having horizontal corrugations of the form described, and being arranged within the fire chamber in respect to the oven chambers, and front boiler holes, as set forth.

Seventh, the opening or openings 8 in the bottom plate of the stove, and the opening 6 in the ash-pit, said openings being arranged in respect to each other on the fire-pot, as and for the purpose specified.

Eighth, the flues T and T′, with an intervening packing of non-conducting material, in combination with a regulating damper *r*, for the purpose specified.

Ninth, the plates P and *j*, extending in a curved direction from the plate F to cover the plate E, and otherwise arranged in respect to the front and rear boiler holes, as set forth.

No. 32,830.—ISAAC GOODSPEED and CHARLES CRAWLEY, of Norwich, Conn.—*Improved Guide for Bombs, Lances, and other Projectiles.*—Patent dated July 16, 1861.—This invention consists in covering the rear end of the projectile or its fuse shaft with a metal sheath, which forms an air chamber, for the purpose of lightening the rear end to form a guide.

Claim.—The application of the metal sheath or cylinder as a guide to bombs, lances, or any other longitudinal instrument, as set forth in the above specification of our invention.

Also, the application of cork as a guide to bombs, lances, or any other longitudinal instrument or projectile, as set forth in the above specification as our invention.

Also, the application of the metal sheath or cylinder and the cork, combined by covering the cork with the cylinder, as a guide to bombs, lances, or any other instrument, as set forth in the above specification as our invention.

No. 32,831.—M. T. GREENLEAF, of Quincy, Ill.—*Improvement in Pumps.*—Patent dated July 16, 1861.—In the upper part of the pump cylinder, which is of a smaller diameter than the lower part, is an inverted tube attached to the hollow piston-rod, and acting as a piston. At the lower end of the piston-rod is a ball check-valve, and also a piston provided with a receiving-valve. At the lower part of the upper chamber is also a check-valve, so that when the piston-rod is raised the lower part of the cylinder is filled with water, while the water in the upper part is forced up through the hollow rod and a continuous stream is maintained, and a forcing and suction-pump combined.

Claim.—The cylinder A, formed of two parts *a b*, of different diameters, in combination with the piston B, tubular piston G, check-valves F *c*, and receiving-valve *d*, with or without the check-valve E, and suction-pipe D, for the purpose specified.

No. 32,832.—M. R. GRISWOLD and O. B. BAILEY, of Watertown, Conn.—*Improvement in Swifts.*—Patent dated July 16, 1861.—The arms of the swifts are fitted so as to move freely in tubes arranged around a cylinder or case secured to the shaft. On the inner surface of this case is a worm or spiral projection fitting between pins on the ends of the arms, so that, by turning the cap in either direction, the worm will cause the arms to be extended outward or drawn inward, so that the thread of the skein may be of different lengths, as desired. Upon one end of the shaft is arranged a tube containing a spring, with a collar and nut, for producing friction on the shaft or swift when desired, and to prevent endwise play.

Claim.—The employment of a worm or screw *j*, or its mechanical equivalents, in combination with the pins *e* and slotted plates *f*, to contract or extend the arms *d*, substantially as and for the purpose described.

Also, the combination of the tubular screws *h*, spring braces *i*, and slots *v*, arranged and operating substantially as and for the purpose described.

Also, the combination of the nut *n*, spring *u*, collar *t*, and tube *p*, arranged and operating substantially as and for the purpose described.

No. 32,833.—CHARLES E. HALE, of Millbury, Mass.—*Improvement in Skates.*—Patent dated July 16, 1861.—This invention is explained by the claim.

Claim.—An improved mode of arranging and applying the spring or springs, the same being a continuation of the runner, fastened at the toe and heel of the foot stand, rigidly or by a suitable joint, or secured to the foot stand at any point or points, whereby the result described may be obtained.

No. 32,834.—ZEBULON HUNT, of Hudson, N. Y.—*Improved Damper for Stove-pipes.*—Patent dated July 16, 1861.—The spindle or shaft of the damper is provided with one or more wedge-shaped flanges at such points within or out of the pipe, and on one or both ends of the spindle, as to prevent it from being easily withdrawn.

Claim.—Providing the spindle or shaft A of stove-pipe dampers with one or more wedge-shaped flanges *c*, in combination with an elongated end *b*, substantially in the manner and for the purpose set forth.

No 32,835.—SAMUEL R. JONES, of York, Pa.—*Improvement in Roofing.*—Patent dated July 16, 1861.—The object of this invention, the nature of which is explained by the claim, is to protect the exposed portions of the roof from decay.

Claim.—First, in all roofs of shingles, of whatever wood, the use or application of slates, of whatever shape, as a substitute along the sloping margins of a roof, or sloping margins of end roofs, rows of buildings, of whatever kind, whether cars, houses, barns, bridges, or any other structure, whereby they may or can be used or applied, substantially in such manner as arranged and described.

Second, in all roofs of shingles, of whatever wood, the use or application of slates as the substitute for the long or short butts of shingles, of whatever form or size, wherever they may or can be applied to any part thereof, whether cars, houses, barns, bridges, or any other structure, wherever they may be used or applied, substantially in such manner as arranged and described.

No. 32,836.—JOSEPH T. LARGE, of Brooklyn, N. Y.—*Improvement in Barometers.*—Patent dated July 16, 1861.—This invention consists in constructing the mercury cup or cistern at the bottom of the barometer tubes with India-rubber or other elastic bags, worked by a mechanical arrangement, so as to render the instrument portable, and thereby preventing the bag from bursting and consequent leakage from expansion or sudden concussion of the mercury while in transportation.

Claim.—The arrangement and combination of the elastic cistern bag F, acorn-shaped knob W, lever A, thumb-screw B, slot C, and notches *f g*, substantially in the manner and for the purpose specified.

No. 32,837.—J. E. MARSHALL, of West Chester, Pa.—*Improved Halter for Horses.*—Patent dated July 16, 1861.—Combined with a halter fitting over the head of the horse is a slip loop consisting of a strong cord passing through the mouth of the horse, under the chin, and over the neck; thence back again through an eye which is attached to the halter and terminating in a long rein which, being drawn tightly, will bind the mouth of the horse, and at the same time draw down his head in whichever direction the rein is pulled, the object being to hold and subdue a vicious horse.

Claim.—Combining with the halter straps *a a'*, *b b'* and *c*, the loop *h*, chin-strap *g*, eyes *e f*, loop *d*, and the neck-loop *j*, arranged substantially as and for the purpose set forth.

No. 32,838.—GEORGE MEADER, of Earlville, Ill.—*Improvement in Wrenches.*—Patent dated July 16, 1861.—Combined with a circular ratchet-head, which is rotated between two rings formed on one end of the wrench stock, are two removable jaws fitted between racks,

formed on each side of a hole through the ratchet-head and held in place by a spring dog, said jaws being so applied that they can be set closer together or moved further apart, thus adapting the wrench to nuts of different sizes.

Claim.—First, the removable toothed-jaws G G, fitted between teeth *e e*, in the rotating ratchet-head D, as and for the purposes herein set forth.

Second, the spring-plate J, arranged on rotating-head D, in the relation to the jaws G G, as and for the purpose herein shown and described.

No. 32,839.—WILLIAM T. MILLS, of Kalamazoo, Mich.—*Improved Sawing Machine.*—Patent dated July 16, 1861.—Mounted upon a frame is a saw connected by pitmen and a lever to a driving wheel by means of which motion is imparted to the saw. A block sliding in grooves made in two upright guides serves to press the saw upon the work.

Claim.—The combination of the saw F, the rod *a*, the guide block *d*, the grooved supports G G, the pitmen H and J, lever I, and connecting-bar K, when arranged with the frame as constructed for joint operation, in the manner and for the purpose specified.

No. 32,840.—ADRIEN MULLER, of Paris, France.—*Improved Furnace for Treating Zinc and other Ores.*—Patent dated July 16, 1861.—This apparatus is designed for treating the metallic ores directly in contact with the fuel by the aid of a blast furnace. The ores and fuel are well desiccated in suitable stoves arranged around the top of the furnace and heated by the waste gases, and are ground and agglomerated into blocks, each block containing, besides the ore, a sufficient quantity of wood, charcoal, or other combustible for reducing the ore, and a suitable quantity of quicklime to produce a good slag.

Claim.—The construction, arrangement, and combination of apparatus employed in the reduction or treatment of zinc and other ores as described.

No. 32,841.—JOHN PETTENGILL, jr., of Jackson, N. H.—*Improved Brake for Railroad Cars.*—Patent dated July 16, 1861.—The shoes which are placed over the wheels are connected at their outer ends to the truck by joints, their inner ends being connected by links to the outer ends of lever frames. The inner ends of the levers are operated through the medium of chains in connexion with guide rods and a slotted bar, so that the trucks will readily conform to the curvatures of the road, neither the car bed or the brakes being allowed to interfere therewith.

Claim.—In combination with the lever frames E E, and shoes D D, the bar I, provided with oblong slots *i i* at its ends, through which pins *j j* on the trucks pass, and also provided with pulleys *h h* for the chains H H to pass over, whereby the bar I is not allowed to interfere with the movement of the car trucks.

Also, connecting the chains H H to the inner ends of the lever frames E E by means of the rings G G, which are fitted on the guide-rods F F at the inner ends of the lever frames, substantially as shown, to admit of the moving of the frames E with the trucks without affecting the chains H H, as set forth.

No. 32,842.—HIRAM H. REYNOLDS, of Buffalo, N. Y.—*Improvement in Instruments for the Prevention and Cure of Spermatorrhea.*—Patent dated July 16, 1861.—This invention is explained by the claim and engraving.

Claim.—A spermatorrhea instrument so constructed as to combine the spiral spring A, and pressure plates D and E, substantially as described, (with or without the cone cup *c*,) and having convenient straps or belts for fastening to the body.

No. 32,843.—GEORGE W. SAMPSON, of Washington, D. C.—*Improvement in Apparatus for Heating Railroad Cars with Steam.*—Patent dated July 16, 1861.—This invention consists in connecting the heating pipes of one car with those of another car by means of a series of hollow links united together by means of vertically and horizontally arranged T-shaped hollow sleeves, the links and sleeves being so constructed as to allow of a communication from one link to another being maintained, whatever may be the deflection of the coupling while the cars are connected together.

Claim.—First, the employment of link couplings embodying the principle of operation set forth, for connecting the heaters of two or more cars, and also for connecting said heaters with the exhaust of the locomotive, substantially as described.

Second, the link couplings constructed substantially as herein described.

No. 32,844.—REUBEN SHALER, of Madison, Conn.—*Improvement in Projectiles for Fire-Arms.*—Patent dated July 16, 1861.—In the breech of the ball or projectile is a shallow recess, into which is fitted an arched piece of metal in such a manner as to cause the pressure of the powder upon it to throw out the edges of the bullet at the breech so as to make them fit snugly against the sides of the barrel and fill the grooves, for the purpose of preventing the escape of the gas generated by the explosion.

Claim.—Providing the butt or rear end of a bullet with the flange 2, and the concavo-convex spreading plate 3, so arranged as to operate in connexion with each other, substantially as and for the purpose set forth.

No. 32,845.—GEORGE B. TURRELL, of New York, N. Y.—*Improvement in Beer Coolers.*—Patent dated July 16, 1861.—This invention is designed as an improvement upon an apparatus patented to H. Migeon, November 1, 1859, and consists in forming the cooling surface by metallic plates set together in such a manner as to form a space for the cooling water to circulate upward between the plates, while the liquid to be cooled trickles over the outside surfaces of said plates.

Claim.—First, a cooler for beer or other liquids, formed of the vertical plates *c c*, in the manner set forth, and operated as specified.

Second, the trough *i*, provided with the screen 4, and with the slots in the side 3, as and for the purposes specified.

Third, the arrangement of the perforated pipes *b* and *d*, in the manner specified, when combined with the metallic sheets *c c*, as and for the purposes set forth.

Fourth, introducing the nipples *f f* at the ends of the plates *c c*, in the manner and for the purposes specified.

No. 32,846.—WILLIAM W. VIRDIN, of Baltimore, Md.—*Improvement in Boat and Ferry Bridge.*—Patent dated July 16, 1861.—One end of the apron or space rests upon an abutment or wharf, and is fitted to it by a socket or other joint; the other end is supported above and out of the reach of the boat by two weighted levers framed together, and each resting for its fulcrum upon a column or post. When the boat reaches its berth the weighted levers allow the apron to drop and rest upon the end of the boat, and thus a continuous roadway or railway track is formed to the boat.

Claim.—A connexion from the main land, pier, or wharf, with steamboats or any other vessel, by means of an adjustable apron or span, with or without railroad track or tracks and adjusting switch upon the same, in combination with fixed weighted lever or levers as counterpoise, substantially as described.

Also, the fixed weighted lever or levers constructed and arranged as set forth, when used with any movable connexion from the main land, pier, or wharf, to and upon steamboats or any other vessel.

No. 32,847.—JOSEPH C. WRIGHT, of Minersville, Pa.—*Improvement in Lamps.*—Patent dated July 16, 1861.—This lamp is designed for burning hydro-carbon oils without the use of a chimney. The wick tube is constructed in two parts, one part sliding within the other, and is used in connexion with two concentric conical deflectors, the inner one of which is perforated at its lower part for the purpose of conducting heat and preventing side-draught. Fitted over the deflector is a movable cap of the form shown in the engraving, for the purpose of producing with a flat wick a flame of semicircular form.

Claim.—First, the combination of the concentric conical deflectors C and D and sliding wick tube E', all constructed, arranged, and operating in the manner and for the purposes shown and explained.

Second, the movable cap H, constructed with a supporting collar *h*, vertical segmental flange *h'*, and oblique convex-ended deflector *h2*, and used in combination with the slotted conical deflector C, in the manner and for the purposes shown and explained.

No. 32,848.—J. W. HOAGLAND, of New Brunswick, N. J., assignor to Himself and RICHARD MCMULLEN, of the same place.—*Improvement in Pneumatic Springs.*—Patent dated July 16, 1861.—The chambers of the metallic boxes which are to contain the condensed air are lined with India-rubber, for the purpose of making them air-tight. Within the plunger is arranged an air-pump, consisting of a hollow rubber cushion confined within a cylindrical box. By means of an orifice provided with a valve air is admitted, but not allowed to escape, and the air is forced down through a tubular stem into the main air chamber. A safety-valve is attached to the air chamber, which is kept closed by a spring regulated by a screw, for the purpose of allowing an excess of air to escape, and to regulate the escape, so that the spring may be made to sustain a greater or less amount of pressure.

Claim.—First, combining with the metallic box A B the India-rubber lining or box D and plunger E, substantially as and for the purposes described and represented.

Second, combining with the hollow main plunger E the elastic air cushion H, confined within a box I, and operated by the stationary plunger J, at each upward stroke of the main plunger, said cushion being so arranged in relation to the air chamber C as to keep up a supply of air to this chamber, substantially as set forth.

Third, combining with the air chamber of a self-supplying pneumatic spring the safety-valve S, spring *p*, and adjustable screw cap P, for the purposes set forth.

Fourth, securing the main plunger E to the diaphragm of the rubber bag D, by means of a tubular bolt or stem F, provided with a valve opening in the chamber C, as set forth.

No. 32,849.—J. F. WHIPPLE, of New York, N. Y., assignor to the SEAMLESS CLOTHING MANUFACTURING COMPANY, of same place.—*Improvement in Military Caps.*—Patent dated July 16, 1861.—This invention is explained by the claim and engraving.

Claim.—The military cap having its crown and a cape composed of felt or other soft material, and having the said cape united with the sides of a peak of leather or other moderately stiff material, substantially as described.

No. 32,850.—D. R. PRUDEN, of West Meriden, Conn., assignor to Himself and C. A. WELLINGTON, of Boston, Mass.—*Improvement in Ornamenting Hollow Articles of Metal.*—Patent dated July 16, 1861.—The object of this invention is to produce upon the exteriors of cups or other hollow articles of metal ornaments similar to those produced by chasing &c., and it consists in subjecting the articles to a process of spinning, with a burnisher, within a hollow die in which the reverse forms of the raised ornaments desired have been produced by engraving or punching.

Claim.—The method described of ornamenting the exterior of hollow articles, and which consists substantially in spinning the articles within the interior of a hollow die, as set forth.

No. 32,851.—SIMEON S. POST and ANDREW J. POST, of Jersey City, N. J., assignors to A. J. POST, aforesaid, and E. C. CLARK, of Piermont, N. Y.—*Improvement in Reflectors for Lamps.*—Patent dated July 16, 1861.—This reflector consists of an incomplete paraboloid, its smaller end being absent, and a separate reflector of a paraboloidal form fixed upon the lamp-slide, and mounted in such a position that when the lamp is in its place the axes of the two separate parts coincide.

Claim.—In the construction of lamp reflectors, the employment of the part or frustum B of a smaller paraboloid mounted in front of the paraboloid M, and so arranged that their axes and foci coincide so as to produce the effect set forth.

No. 32,852.—CALVIN ADAMS, of Pittsburg, Pa.—*Improvement in Meat-Cutters.*—Patent dated July 23, 1861.—The revolving disc is provided with curved cutters and cams, which latter tend to force the meat between the revolving and stationary cutters, whence it is forced through openings in the edge of the revolving disc.

Claim.—The combination of the revolving disc H of the cams *j j* and cutters *i i* and openings *k k*, arranged with stationary cutters *e e*, on disc or casing A, all substantially as and for the purpose specified.

No. 32,853.—STEPHEN R. ANDRES, of Troy, N. Y.—*Improvement in Articles of Food Made from Beans.*—Patent dated July 23, 1861.—The beans are prepared by being first soaked and then boiled, when they are crushed between rollers and dried in a kiln or air closet.

Claim.—Flour, meal, grits, grain, or any article made from boiled or otherwise cooked and desiccated beans, manufactured as described, or in any equivalent way.

No. 32,854.—ALEXANDER BAIN, of New York, N. Y.—*Improvement in Electric Telegraphs.*—Patent dated July 23, 1861.—This invention consists in so applying an acoustic tube, in combination with the lever carrying the armature of a magnet, that a person having the tube applied to his ear may hear the sound, while it is inaudible to persons at a very short distance from the instrument. In combination with this tube is a cover of glass or other material enclosing the instrument, for the purpose of preventing the sound escaping in any great degree, except by the acoustic tube, and of avoiding to convey the sound to the tube.

Claim.—First, the employment of an acoustic tube, or its equivalent, combined with the armature lever of an electro-magnet, or with any equivalant instrument for producing sounds by electricity, to operate substantially as and for the purpose set forth.

Second, the employment, as stops for the armature lever, or other device by whose movement the sound is produced, of collars *w w'*, or their equivalents, adjustable upon the acoustic tube itself, substantially as specified.

Third, the employment of a cover enclosing the instrument for producing the sounds and the mouth of the acoustic tube, substantially as and for the purpose specified.

No. 32,855.—H. C. W. BATTERMAN, of New York, N. Y.—*Improvement in Bird Cages.*—Patent dated July 23, 1861.—The seed cup is made with a small discharge opening at or near its bottom, in combination with a conical bowl, which forms the bottom of the cup, so that only a small quantity of seed is accessible to the bird, and all wasting and spilling is prevented. A protecting case is made to slide upon wires, so that the seed cup may be exposed for filling or cleaning.

Claim.—First, the arrangement and combination of the seed cup C, discharge opening *e*, and bowl D, constructed and operating substantially as and for the purpose shown and described.

Second, the vertically sliding loops *g*, or their equivalents, in combination with the protecting case E, as and for the purpose set forth.

No. 32,856.—LEVI A. BEARDSLEY, of South Edmeston, N. Y.—*Improvement in Pulley Blocks.*—Patent dated July 23, 1861.—The sides of the frame which sustains the wheel or sheave extend beyond the edges of the sheave, while the edges of the frame are cut away, and, turning outward, are rounded over, forming lip-shaped ribs. The edges of the sides of the frame are also turned outward and rounded over, forming also ribs, and, with the other rib, form a continuous flange for the purpose of strengthening the edges of all parts of the casing, its smooth surface preventing the wear of the rope or cord.

Claim.—Extending the sides of the cast wheel frame beyond the edges of the sheave, as

described, in combination with ribs *f* and *e*, the whole constructed to operate substantially as described for the purpose set forth.

Also, in combination with the cast wheel frame, leaving its edges extended beyond the sheave, as described, a fixed bail of wrought iron, the whole arranged to operate as set forth.

No. 32,857.—JARED K. BUCK, of Winona, Minn.—*Improvement in Winnowing Machines.*—Patent dated July 23, 1861.—The novelty of this invention consists in the combination and arrangement of the parts as stated in the claim.

Claim.—The combination and arrangement of the shaker, Fig. A, the shoe spring, Fig. C, the screen lever, Fig. B, the rake, Fig. D, the drawer, Fig. E, when constructed and operating as and for the purposes specified.

No. 32,858.—NATHAN CARR, jr., and JOHN CARR, of Monmouth, Ill.—*Improvement in Cultivators.*—Patent dated July 23, 1861.—The bow, which answers as the frame, is supported by two castor wheels, and allows the ploughs to pass on each side of the young plants, and also to pass an irregular hill. The tongue is rigidly fastened to the top of the bar.

Claim.—First, making the frame in the form of a bow, in combination with supporting it by castor wheels H H, as shown and described.

Second, in combination with said bow A and castor wheels H H, the hinged plough beams C C and tongue B, arranged in relation to each other, as shown and described.

No. 32,859.—SAMUEL W. CHAMBERLIN, of Stoneham, Mass.—*Improvement in Machines for Polishing Shoe and Boot Heels.*—Patent dated July 23, 1861.—The polishing wheel is provided with a flange for the purpose of giving a finished edge to the heel. The last is adjusted to the wheel by means of the swivelling movements obtained by the employment of two pivots together, with a sliding movement of the rod to which the last pin is secured. Springs may be attached to a connexion of the last pin for forcing the last toward the polishing wheel.

Claim.—The combination of the flange *c* with the polishing wheel *b*, when arranged to operate together, as specified.

Also, the combined arrangement, operating substantially as specified, of a sliding and swivelling holding mechanism with a polishing wheel, with or without a flange.

Also, the combination of springs, or their equivalents, operating substantially as set forth, with a sliding swivelling holding mechanism and a polishing wheel, with or without a flange.

No. 32,860.—M. G. COUCH, of Odessa, N. Y.—*Improved Hay Raking and Loading Device.*—Patent dated July 23, 1861.—An endless belt of rakes is applied to a mounted frame, which is connected to the rear of the wagon to be loaded, the rakes being so arranged as to discharge their loads at the proper point by means of their own gravity, in connexion with that of the load.

Claim.—The endless belt of rakes, when applied to a mounted box A, and having its rake bars G′ attached loosely to its straps *b b*, and provided with rods *e*, so arranged in connexion with the bottom *b** of the box, that the rake bars will be retained in proper position while carrying up their loads, and allowed to discharge them at the proper point by their own gravity, substantially as set forth.

No. 32,861.—S. M. DAVIS, of Lawrence, Mass., assignor to ANDREW L. HASKELL, of Chelsea, Mass.—*Improved Tent.*—Patent dated July 23, 1861.—The frame of this tent is formed similarly to that of an umbrella, the hubs to which the arms are attached being allowed to slide upon the pole, so that the frame can be readily raised and lowered, or turned upon the pole.

Claim.—A folding adjustable tent, made and operating as herein shown and described.

No. 32,862.—A. H. FRENCH, of Pittsfield, Ill.—*Improvement in Water Elevators.*—Patent dated July 23, 1861.—The bottoms of the buckets are provided with hinged valves opening inwardly, and at the lower end of the bucket is a hook which, as it rises, elevates a small trough which is hinged to the main trough. At a point in the small hinged trough corresponding with the centre of the bottom of the bucket is a pin which, as the trough rises to a horizontal position, opens the valve and lets the water out into the hinged trough, whence it runs into the main trough.

Claim.—Constructing the well buckets with hinged valves *d d′* in their bottoms and hooks *g g* on their sides, and combining with said buckets the hinged or swinging troughs G G′, furnished with bails *h h′* and lifting pins *k k′*, all arranged and operating substantially as and for the purposes set forth.

No. 32,863.—FREDERICK FRICKINGER, of Schodack, N. Y.—*Improvement in Piano-Forte Action.*—Patent dated July 23, 1861.—This invention consists in a device for arresting the hammer near the string after the blow, to enable a quick repetition to be effected. In connexion with the hammer is a spring, consisting of a steel wire secured to the hammer-

flange at one end, and having a hook at its opposite end, attached by a cord to the hammer, for the purpose of relieving the jack and key of such portion of its weight as may be desirable. The jack-spring is of spiral form, and is arranged within a mortise of the jack bottom; its front end is attached to a protuberance on the bottom of the tenon of the jack, and its rear end to the jack bottom.

Claim.—First, the combination of the protuberance *d* on the jack and the notched block *b*, attached to the hammer-shank, substantially as and for the purpose specified.

Second, the spring E applied, in connexion with the hammer-but, substantially as and for the purpose set forth.

Third, the connexion of the jack-spring *h* with a protuberance *f* on the bottom of the tenon of the jack, substantially as and for the purposes described.

No. 32,864.—C. W. GAGE, of Homer, N. Y.—*Improvement in Shaft Coupling for Vehicles.*—Patent dated July 23, 1861.—Secured to the axle is a stationary jaw, to which is attached, by means of a bolt, a movable jaw. Each jaw is provided with a short journal of conical form, which fit into openings in the end of the shaft. As these openings wear away, the jaws are brought nearest together by means of a screw-bolt, and the rattling of the joints prevented.

Claim.—The employment of the jaws B and C, one of which is movable, and both of which are provided with sections of conical journals, when the same are used in the manner and connexion represented for the purpose set forth.

No. 32,865.—JOHN GAULT, of Boston, Mass., assignor to WILLIAM A. MOORE, of Lowell, Mass.—*Improvement in Vault Covers.*—Patent dated July 23, 1861.—To the under side of the vault cover is attached a bar, which passes through a socket in the thimble. The bar is provided with holes, through which a pin passes, by means of which the cover may be kept closed or secured at any desired height above the opening, and serves as a guard or protector to prevent persons from stepping into the hole.

Claim.—The arrangement of the internal socket F, thimble A, movable cover D, perforated flat bar E, and pin G, all constructed and combined in the manner and for the purposes shown and explained.

No. 32,866.—LOURE GREEN, of Great Bend, Pa.—*Improvement in Ploughs.*—Patent dated July 23, 1861.—This invention consists in combining with a single standard, as may be desired, a changeable mole, subsoil, and draining plough, for the purpose of performing a variety of farming operations.

Claim.—The combination of the standard H H with the shares A, B, and C, and the flanches E *f* and D D, the whole constructed and arranged substantially as and for the purposes set forth.

No. 32,867.—G. G. GRISWOLD, of Chester, Conn.—*Improvement in Skates.*—Patent dated July 23, 1861.—In the under part of the skate stock is a groove into which is fitted a flat bar provided with holes for receiving the points of the skate iron, which are riveted over the bar. The bar is secured to the iron by means of screws.

Claim.—The arrangement of the bar B with the grooved skate stock A and runner C, in the manner and for the purpose shown and described.

No. 32,868.—H. HAGANS, of Brandonville, Va.—*Improvement in Churns.*—Patent dated July 23, 1861.—The dasher-staff is made hollow and is provided with several radial wings and two ribs or feathers. The butter gatherer is fitted loosely on the dasher-staff so as to be self-adjusting vertically, and is made to rotate with the staff by means of the ribs.

Claim.—The arrangement of the self-adjusting rotary butter gatherer G and ribs *c*, with the dasher rod E and wings F, in the manner and for the purpose shown and described.

No. 32,869.—WILLIAM HANLON, of Philadelphia, Pa.—*Improvement in Cricket Wickets.*—Patent dated July 23, 1861.—This invention consists in constructing the stumps with spring joints near the bottom, which will permit them to yield and fall over sufficiently to displace the bails when struck by a ball, without disturbing their security in the ground, and to enable them to resume of themselves the upright position after the ball has passed them. The bails are attached to one or more of the stumps by chains or cords to prevent them from falling far from the top of the wickets. The upper ends of the stumps are provided with adjustable bail supporters, containing the grooves for the reception of the bails, to enable the grooves to be brought into line with each other to receive the bails.

Claim.—The construction of wicket stumps with spring joints, substantially as and for the purpose set forth.

Second, the attachment of the bails to one or more of the stumps by chains or cords, substantially as and for the purpose specified.

Third, the adjustable bail supporters fitted to the heads of the stumps, substantially as and for the purpose described.

No. 32,870.—JOHN HOYT, of Cleveland, O.—*Improvement in Machines for Drying Paper.*—Patent dated July 23, 1861.—This invention consists in a method of drying sized paper by passing it over steam-heated cylinders provided with non-metallic guards to prevent the paper from coming in contact with the heated surface of the cylinder. The paper also passes over non-metallic rollers between heaters made to conform to the frame work of the machine.

Claim.—First, steam-heated cylinders with non-metallic guards, arranged as described, in combination with the stationary tubular heaters B and non-metallic rollers C, substantially as described.

Second, the use of non-metallic guards when placed around close steam cylinders, substantially as described and for the purpose set forth.

No. 32,871.—RICHARD G. HUNT, of New York, N. Y.—*Improvement in Machines for Slotting Gas Sieves.*—Patent dated July 23, 1861.—With a yielding hinged bed or table is combined a rotating cutter, having its cutting edges upon a series of inclined pyramidically shaped teeth, the four faces of which are at different angles and so arranged as to present a cutting edge at only one side of each tooth alternately, the front face of each tooth being inclined diagonally to the axis of the cutter alternately in reverse directions for the purpose of clearing the shaving; the object being to make the bars of the sieve wedge-shaped in sections, so as to present a large upper surface to sustain the lime, and a smaller lower surface to permit of the free passage of the gas through the bars.

Claim.—The pyramidically-toothed cutter with cutting edges alternately on opposite sides of the teeth, substantially as described, in combination with a yielding hinged bed or table, substantially as described.

Also, the hinged bed, in combination with a spring or equivalent, substantially as described.

No. 32,872.—JOSEPH P. JAMES, of Pepin, Minn.—*Improved Grab or Self-closing Hook.*—Patent dated July 23, 1861.—Hinged to the shank of the hook is a latch, which is retained in position by means of a spring catch, the latch closing down upon its point from the outside in such a manner that when it is opened a line or rope may be readily introduced into or taken out of the hook, and the latch is closed by coming in contact with any resisting body and firmly retained by the catch.

Claim.—The arrangement of the spring catch C, in combination with the outwardly opening hinged latch B and hook A, all constructed and operating in the manner and for the purpose shown and described.

No. 32,873.—JOHN W. JARBOE and A. MACKEY, of New York, N. Y.—*Improvement in Drip Pots for Sugar Moulds.*—Patent dated July 23, 1861.—The object of this invention is to make the top and neck of the drip pot stronger and more durable than either the cast iron or the sheet iron ones commonly used.

Claim.—The construction of the drip pot with its top C composed of a single piece of sheet iron, and its neck D composed of a ring of malleable iron, said top and neck being combined substantially as specified.

No. 32,874.—JOHN S. JENNESS, of Bangor, Me.—*Improved Electro-Magnet.*—Patent dated July 23, 1861.—This invention is explained by the claim.

Claim.—Constructing the core of electro-magnets of a bundle of single wires and placing said bundle of single wires in a tube, and bending the tubes and wires while hot into a U-shaped magnet, as described, and for the purposes set forth.

No. 32,875.—CECIL G. JOHNSON, of London, England.—*Improvement in the Manufacture of Boots and Shoes.*—Patent dated July 23, 1861.—Patented in England April 2, 1860.—The sole of the shoe or boot is made of yarns or threads of fibrous material, such as hemp, flax, or jute, plaited together and made up into a flat coil and sewed through from side to side. The uppers may be made of canvas or any woven fabric and sewed to the soles.

Claim.—As a new article of manufacture, a boot or shoe made as described.

No. 32,876.—E. A. KELSEY, of Meriden, Conn.—*Improvement in Coffee and Tea Pots.*—Patent dated July 23, 1861.—This invention consists in constructing the spouts of tin plate swaged in proper form and in two equal longitudinal parts, which are connected together and to the pot by solder, the object being to obtain a tinned plate spout as ornamental as the Britannia metal ones and at a much less expense.

Claim.—A coffee or tea pot constructed of tinned plate, with a nozzle or spout D of the same material, swaged or struck up in proper form by means of dies, substantially as set forth.

No. 32,877.—Cancelled.

No. 32,878.—G. KOBER, of New York, N. Y.—*Improvement in Water Meters.*—Patent dated July 23, 1861.—The spiral-bladed wheel fits loosely within an upright cylinder, and is

fitted to slide upon a shaft. This wheel is made with a hollow air-tight cylindrical hub, the cavity therein being of such capacity that though the wheel will not float, it will rise with any considerable pressure of water on its under side. The spiral blades are extended a short distance below the bottom of the hub, the action of the water being similar to that of the buckets of a turbine water wheel. Projecting upward within the lower part of the cylinder is an annular seat upon which the wheel rests when no water is drawn through the meter.

Claim.—The downward extension of the spiral blades *k k* from the exterior periphery of the rising and falling cylindrical hub *d* below the bottom thereof, as shown at *i i*, in combination with an annular seat *j j* of smaller diameter than the said hub, substantially as and for the purpose set forth.

No. 32,879.—BENJAMIN LAMBERT, of Surrey county, England.—*Improvement in the Treatment of Printed Paper to Remove Ink and Recover the Pulp.*—Patent dated July 23, 1861.—Patented in England July 6, 1860.—The printed paper in its ordinary state is boiled in a closed vessel containing a weak caustic alkali and then cooled. The ley or alkaline liquor is then removed from the paper and a fresh supply of such liquor is substituted and the whole again boiled. The boiled paper is then well beaten in the ley so as to convert it into pulp. The ley is subsequently drawn from the pulp and the latter thoroughly washed with water.

Claim.—The improved process, substantially as described, for treating printed paper in order to remove its ink and convert such paper into pulp fit to be re-made into paper.

No. 32,880.—H. LAWRENCE and C. H. WHITE, of Melrose, N. Y.—*Improved Method of Locking the Nuts on Railroad Rail Bolts.*—Patent dated July 23, 1861.—The object of this invention is to prevent the nuts on bolts, which are used to secure strengthening bars on each side of the joints of railroad rails, from wearing loose, which is effected by interposing washers between the nuts and fishing bars, and securing the nuts to the washers by spring pawls on the nuts engaging with ratchet teeth on the washers, so that the nuts may be set up when desired, but will be prevented from turning loose.

Claim.—The washers G G G, having annular ratchet-teeth flanges *a* formed on them, in combination with the springs or pawls *g*, which are secured to the nuts D, substantially as and for the purposes set forth.

No. 32,881.—D. W. LEWIS, of Janesville, Wis.—*Improvement in Pumps.*—Patent dated July 23, 1861.—The piston and piston barrel are so connected that as the handle is raised the movable case to which the handle is fulcrumed also rises with the pipe and piston, while the piston barrel, through the medium of the balancing rods, is made to descend, thus causing a double stroke with one motion of the handle.

Claim.—First, the peculiar combination of the piston L and piston barrel E with the equalizing bar or lever-gauge G and the balancing rods P O, substantially as and for the purpose set forth and described.

Second, the oscillating fulcrum bar R, combined with the lever or handle S, and the balancing rods P O, and the movable case C, substantially as shown and described.

No. 32,882.—ROBERT M. MARSHALL, of Dayton, O.—*Improvement in Machines for Rolling Candy.*—Patent dated July 23, 1861.—This invention consists in forming candy into sticks from a sheet of paste or dough as it passes between rollers provided with cutting edges or made so as to give the candy any form of ornamentation desired.

Claim.—The cutting and impressing of sticks of candy from a sheet of candy dough or paste by an arrangement of rollers, constructed and operating substantially as described and represented.

No. 32,883.—A. P. MERRILL, of Ypsilanti, Mich.—*Improvement in Grain Separators.*—Patent dated July 23, 1861.—The inventor disclaims the separate devices in this machine, and the novelty of the invention consists merely in the arrangement of the parts, as designated in the claim.

Claim.—Arranging the reels D D D, the endless grain carrier, the rake 2, the sieve T, and the screen conveyers V, together, in the manufacture herein represented, when the several parts are connected and made to operate as specified.

No. 32,884.—CHARLES METTAM, of New York, N. Y.—*Improved Camp Cot.*—Patent dated July 23, 1861.—This invention is explained by the claim.

Claim.—First, the construction of portable camp cots, the same consisting of sectional side rails united longitudinally by means of metallic sockets or sleeve-joints, in combination with removable and jointed cross-legs and detachable canvas, the whole being arranged substantially as described.

Second, the method of scarping or dovetailing and mortising the continuous ends of the side-rail sections, so that while capable of being firmly jointed and secured in a longitudinal direction, they shall admit of the legs being inserted, for the double purpose of locking the joint of the rail section and of being fixed thereto as described.

Third, the combination of the slot and pin in the socket and rail section, respectively, or of any other locking or holding device, with the metallic socket, whereby the said socket is capable of sliding motion while being held on to either end of the rail section, substantially as shown and described.

Fourth, in combination with the longitudinally divided sectional side rails, the metallic sleeve or socket.

Fifth, the use, in combination with the rails and legs of cots constructed as described, of a canvas provided with a sleeve on the rail-side thereof and slits corresponding to the legs, as set forth.

Sixth, providing the canvas when strapp[illegible]on, by sleeve or otherwise, equivalently attached transversely to the side-rails with c[illegible]aps, or their equivalent, so arranged that the canvas may be stretched longitudinally, substantially as described.

Seventh, the method and manner, herein described, of bracing the cross-legs of a camp cot by means of cords, or their equivalents, so that perfect rigidity of the cot may be obtained, without sensibly increasing the weight thereof.

Eighth, forming the side-rails of sections of suitable number and length, and uniting the same by means of a metal socket forming the head of a corresponding leg, substantially as described.

No. 32,885.—S. M. MOTT, of Wellsville, N. Y.—*Improved Lubricating Oil.*—Patent dated July 23, 1861.—This invention consists in mixing crude rock or other mineral oil with common salt, saltpetre, unslaked lime, and bar soap, with a quantity of water, by means of steam, which is let into the above-named compound through a pipe until it boils.

Claim.—The within-described method of preparing lubricating oil from crude rock or mineral oil by subjecting it to the action of steam, combined with the chemicals within described in the manner set forth.

No. 32,886.—WILLIAM T. NICHOLSON, of Providence, R. I.—*Improvement in Egg Beaters.*—Patent dated July 23, 1861.—The small pinion which engages with the large gear wheel is keyed to a rod provided at its lower end with a pair of propeller blades which are rotated with the rod. To the under side of the pinion is secured a disc, on the lower surface of which is an elliptic groove, in which fits a projecting ear of two arms pivoted at their upper ends to the handle, so that as the propeller shaft is rotated a reciprocating motion will be imparted to the beaters, which, in connexion with the revolving blades, are designed to break the circling currents at regular intervals.

Claim.—The reciprocating beaters K K, or their equivalents, when combined with a revolving beater G G, or its equivalent, substantially as described for the purpose specified.

No. 32,887.—WILLIAM PALMER, of New York, N. Y.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated July 23, 1861.—In the rear end of the breech is a cross-mortise, nearly square, through which passes a shaft provided with a lever on its outer end of the shaft, and a cam working in said mortise, by means of which the breech is forced to the barrel and held. The rear face of the mortise causes the cam to draw back the breech, while the lower face elevates the breech and the upper face again depresses the same by the movements of the cam, the motions being thereby all performed by one device. The space between the point of the ball and the case which surrounds the cartridge is filled with tallow.

Claim.—The four-faced mortise *i k l p*, in the rear of the sliding and turning breech *d*, in combination with the cam *h*, the parts acting in the manner and for the purposes specified.

Also, the cartridge *n*, provided with the grease 4, in front of and surrounding the ball, in combination with the said turning and sliding breech, for the purpose and as specified.

No. 32,888.—EDWIN PARKS, of Winchendon, Mass.—*Improvement in Faucets.*—Patent dated July 23, 1861.—The end of the faucet which enters the barrel is provided with a metal prolongation, on the end of which is a boring tap, having immediately behind it a chamber separated from the passage through the faucet by a partition, so that chips are prevented from entering the faucet. The liquid enters the faucet pipe through openings in its sides.

Claim.—The bit *c*, in combination with the chamber *d*, as applied to a faucet for the purpose described.

No. 32,889.—WILLIAM PITT, of Ithaca, N. Y.—*Improvement in Lamps.*—Patent dated July 23, 1861.—This lamp is designed for burning coal oil without a chimney. On the upper and lower ends of the wick-tube are fitted supplemental tubes of larger dimensions than the wick-tube itself, for the purpose of allowing a freer passage for the oil up the wick. To the top of the deflector is secured a bow-shaped metal strip extending centrally over the top of the tube, so as to divide the flame in two parts, for the purpose of presenting a greater surface of the flame to the air.

Claim.—The supplemental wick-tubes F G, applied to the wick-tube B, as shown, in combination with the flame-divider H, attached to the cone or deflector E, relatively with the tube F, as shown, and all arranged as and for the purpose set forth.

No. 32,890.—LEONARD L. POLLARD, of Worcester, Mass.—*Improved Auger Handle.*—Patent dated July 23, 1861.—In the handle is inserted a socket or frame, into which the shank of the auger is held by means of a ratchet or dog having a projection which fits into a notch in the shank. The ratchet is held in position by a thumb-piece or key, which is kept pressed out by a spiral spring. On pressing in the thumb-piece the notch in the ratchet is released from the shank and the latter may then be withdrawn.

Claim.—The socket or frame F, the catch or dog C, the thumb-piece or key D, or their equivalent, in combination with the spiral spring E, the handle A, and the pin or rivet G.

No. 32,891.—M. L. POWELL, of New Castle, Indiana.—*Improved Burglars' Alarm.*—Patent dated July 23, 1861.—This invention consists in so connecting the door and windows of a bedroom by means of a cord with a tilting bedstead that any attempt to open the door or raise the window will throw the bed and cause its occupant to roll out. A weight may be applied to the cord which connects the door and window with the tilting bedstead in such a manner should the cord be cut the bedstead will be thrown by the action of the weight.

Claim.—The arrangement of the cord *k*, passing through loops *l m n o*, and connecting with the pred-dog G, which retains the tilting frame A of the bedstead, substantially as and for the purpose shown and described.

Second, the arrangement of the weight K, in combination with the cord *k*, as and for the purpose specified.

No. 32,892.—THOMAS RAINEY, of New York, N. Y.—*Improved Car Seat.*—Patent dated July 23, 1861.—Secured to each end of the seat is a metal plate, to the lower surface of which is attached a projection, on each of which is a horizontal journal having their bearings in the upper parts of the end pieces which admits of the seat inclining either way. The radius bars are pivoted at their lower ends to the end pieces, and have each a recess in which the edges of the plates of the seat fit, so that as the radius bars are moved forward or back the seats are simultaneously adjusted.

Claim.—The connecting, substantially as described, of the radius bars H H, of the seat-back to the rocking seat B, so as to admit of the automatic adjustment of the seat, with the reversing movement of the back, as set forth.

No. 32,893.—JOSHUA REGESTER, of Baltimore, Md.—*Improvement in Street Washer.*—Patent dated July 23, 1861.—The casing consists of a cast-iron box, made in halves from one pattern, and bolted together. Within this casing is the tube, to the lower end of which is attached the key of the stop-cock. A projection on the stop-cock passes through a hole E in the case, which prevents the cock from turning, while the whole is held in position by collars F E when the box is bolted together.

Claim.—A metallic casing A, constructed as described, provided with F F and E, as bearings, when employed and combined with a stop-cock D, and rod, or tube B, all operating in the manner and for the purposes substantially as set forth in the foregoing specification.

No. 32,894.—STEPHEN M. ROUNDS, of Somerset, Mass.—*Improved Extension Table.*—Patent dated July 23, 1861.—The bed-pieces constitute a portion of the surface of the table, and are supported upon the legs. Between and to each of these bed-pieces are hinged a series of leaves, which are hinged also to each other, so that in drawing out the table the leaves will rise and form a continuation of the surface. The leaves are supported by folding-bars hinged to a cross-piece under the bed-piece.

Claim.—The combination of the beds A, which are supported by the legs B, folding-leaves F, and hinged bars D, or their equivalents, arranged substantially as and for the purpose set forth.

No. 32,895.—CASPER D. SCHUBARTH, of Providence, R. I.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated July 23, 1861.—The guard is made to act as a lever to move a slotted key which slides beneath the stock, so that when the guard is lowered it retracts the key, and allows the stock to fall, the breech-piece being drawn back by the contact of the hammer, and the latter, by the same movement, raised to a half-cock, which movement exposes the rear end of the barrel, for the insertion of the cartridge.

Claim.—The combined guard and lever F, pivoted so as to move in a vertical plane, and acting in connexion with the sliding-key E, to secure or release the pivoted stock A, as set forth.

No. 32,896.—JACOB SEEBOLD, of New Berlin, Pa.—*Improvement in Grain Threshing and Separating Machines.*—Patent dated July 23, 1861.—The threshing clyinder is journaled in brackets projecting from a cast-iron frame, constructed as shown by the engraving. The shoe is supported at its rear end on a hinged-frame resting upon the ground, and at its front end upon arms projecting upward from a horizontal shaft journaled in bearings on the frame. The supporting arms in front are provided with stud-shafts projecting inwardly, and confined in movable boxes bolted or pinned to the bottom of the shoe, so that the latter may be readily detached when necessary.

Claim.—First, the cast-iron frame B *b b'*, constructed as shown and described, and employed in connexion with the cylinder A, rocking-frame F F' G, and crank-wheel H, of a threshing machine, in the manner and for the purposes explained.

Second, the combination of the arms E F', stud-shafts *f*, and movable boxes *f'*, all constructed, arranged and employed in the manner shown and explained for the purpose of readily connecting or disconnecting the shaking shoe and threshing apparatus.

No. 32,897.—S. B. SEXTON, of Baltimore, Md.—*Improvement in Hot-Air Registers.*—Patent dated July 23, 1861.—The open work cover-plate of the register is hinged to a flange, which is set in the wall, so as to admit of being easily opened. The valve is placed at the bottom of the box, and consists of a disc so arranged as to turn upon its axis and admit of access to the flue, through the box.

Claim.—In combination with the hinged front-plate, a register-valve, constructed and operated substantially as described, whereby access to the flue-pipe may be had for its adjustment, or for other purposes, without necessitating the removal of the register-box, as set forth.

No. 32,898.—GEORGE SEYMOUR, of Cedar Rapids, Iowa.—*Improvement in Machines for Shelling and Grinding Corn.*—Patent dated July 23, 1861.—This invention consists in the arrangement of a series of adjustable yielding slats, with teeth and spiral ridges, placed side by side, in an upright position, so as to form a conical shell, in combination with a rotary toothed cone, in such a manner that said slats adapt themselves readily to ears of different sizes, and the ears are shelled from beginning to end. In the interior of the hollow shelling-cone is arranged a solid adjusting grinding-cone, to which a rotary motion, in a direction opposite to the motion of the shelling-cone, can be imparted, and which operates in combination with a grinding surface on the inside and bottom of the hollow shelling-cone, in such a manner that the corn or other substance may be speedily reduced to meal or flour.

Claim.—First, the arrangement of a series of slats A, attached by means of lugs *a* to adjustable platforms B, and acted upon by means of springs *f*, in combination with the shelling-cone D; the whole being constructed and operating as and for the purpose described.

Second, the arrangement and combination of the hollow shelling-cone D, solid adjustable grinding-cone J, grinding surfaces *o o'*, hollow shaft *g*, vertical arbor *j*, and bevel-wheels *h h'*; all constructed and operating substantially as and for the purpose specified.

No. 32,899.—CHRISTIAN SHARPS, of Philadelphia, Pa.—*Improvement in Adjustable Back Sights for Fire-Arms.*—Patent dated July 23, 1861.—Attached to a plate fitted in a recess across the top of the barrel are two flanges, between which fits an arm which is allowed to vibrate freely. The rear edge of each flange is convex, and provided with notches, which receive the end of the projections on a sliding plate, by which means the adjustment of a notched projection on the end of the arm can be properly regulated to suit the distance at which the load is to take effect.

Claim.—The movable arm D, with its notched projection G, and sliding plate E, in combination with the notched flanges B and B', the whole being constructed and operating substantially as and for the purpose set forth.

No. 32,900.—NEWMAN SILVERTHORN, of Prescott, Wis.—*Improvement in Stoves.*—Patent dated July 23, 1863.—This invention is explained by the claim.

Claim.—The casting, or removal of that portion of the top of stoves, directly or not directly over the fire, off in a slide, whether parallel to or at any angle to the length to the fire-chamber, for the purpose of more conveniently building or relighting fires, putting in longer, larger, or rougher wood, coal, chips, or any other fuel, more conveniently than can now be done through the door or top, without the removal of pots, lids or middle section, as is now often done for the adding of fuel, &c., substantially in the manner and for the purpose set forth.

No. 32,901.—FREDERICK SIMON, of New York, N. Y.—*Improvement in Methods of Giving Smooth Surfaces to Hard Rubber in the Mould.*—Patent dated July 23, 1861.—This invention consists in covering the green and plastic India-rubber or gutta-percha sheets with a solution or paste of pure India-rubber or gutta-percha and spirits of turpentine, for the purpose of making the metal adhere to the rubber, and giving brightness to the rubber after vulcanization.

Claim.—The method, hereinbefore described, of giving smooth surfaces to articles of India-rubber or gutta-percha, intended to be moulded or enveloped in metal plates, by coating them, prior to being included in the metallic plates, with a solution of rubber and turpentine, substantially as set forth.

No. 32,902.—GEORGE SMITH, of New York, N. Y.—*Improved Device for Cleaning Knives.*—Patent dated July 23, 1861.—In a rectangular box is placed a rubber which is allowed to slide freely, the rubber being attached to a lever by a screw or pin which is fitted in an oblong slot in the lever, so that, by working the latter, the rubber will be moved back and forth over the knife blade which is adjusted to the box.

Claim.—The combination of the box A, rubber B, and lever D, arranged for joint operation as and for the purpose set forth.

No. 32,903.—CHARLES F. SPAULDING, of St. Johnsbury, Vt.—*Improved Milk Pan.*—Patent dated July 23, 1861.—This invention consists in forming an annular surface in the bottom of a tin pan, for the purpose of stiffening the bottom and preventing the springing motion, and of allowing a circulation of air under the same.

Claim.—As an improved article of manufacture, my improved pan as made with an annular depression or air chamber B in its bottom, the same being in the manner and for the purpose set forth.

No. 32,904.—HENRY D. STOVER, of New York, N. Y.—*Improvement in Planing Machines.*—Patent dated July 23, 1861.—The nature and object of this invention will be understood from the claim.

Claim.—Constructing the bed piece in sections of tubes or solid pieces, to be lengthened or shortened conveniently, in order that a bed piece usually employed for dressing short pieces, and occupying but little room, may be quickly lengthened and adapted to dress long pieces also.

Also, providing the movable platen with securing clamps, operated substantially as described, between which the piece to be dressed, whether warped or twisted, is readily and easily secured to the platen, and firmly held without bending out the warps or twist, and without the necessity of blocking up, so that the cutters will dress the piece straight and out of wind, as set forth.

Also, the arrangement of matching cutters, to be adjusted both laterally with each other and vertically upon the bed piece, essentially as described, in combination with the platen, so that the planing and matching of the piece may both proceed at the same time, or either the planing or matching may be done separately, whether the platen be made movable with the piece secured thereupon, or the platen be fixed and the piece be made to move thereon.

Also, the arrangement of the gearing for driving the feeding rolls, so that cogwheels of greater diameter than the rolls can be mounted on their shafts, and, at the same time, admit of adjusting the distance between the two rollers to suit any varying thickness of lumber to be planed, which arrangement consists in placing the two wheels on the shafts of the rollers in two separate and parallel planes so that one will pass by the other, in combination with the elbow frame in which the shaft of the connecting pinions is mounted, and a series of radial moving arms by which the shafts of the said wheels are connected with their pinions, and the two sets of pinions with each other, substantially as and for the purposes specified.

Also, so arranging the cutting cylinder that its lower portion may be dressing a board or piece, and, at the same time, the upper or other portion of the cylinder may dress another piece, substantially as described, in combination with feed rolls and movable platen, for feeding the material to the cylinder at different points of its periphery, substantially as set forth.

Also, sliding the feed rolls into and out of position to connect them for use with the fixed bed piece and cutting cylinder, and remove them when the movable bed is used by means of the crossways, substantially as described.

Also, the pressure plate above the cylinder and the table below, between which the board or lumber, even if exceedingly thin, may be fed to the planing cylinder, in combination with the planing cylinder, for the purpose and in the manner substantially as set forth.

Also, the manner of connecting the uprights of the frontal plate with the bed piece, in combination with the diagonal tubes or rods F, which are threaded to the uprights with right-hand screws, and also threaded with left-hand screws to the bed piece, substantially as described, so that, by turning the screws, the face of the upright may be adjusted in position, substantially as described.

Also, in combination with the framework of a planing or other machine, a safe or other suitable case for the preservation or safe-keeping of the tools or other valuable appurtenances belonging to the machines, as described.

No. 32,905.—DANIEL B. WAITE, of Providence, R. I.—*Improvement in Making Watch and Locket Rims.*—Patent dated July 23, 1861.—This invention consists in the employment of a hollow cutting former and die in combination with a cutting die and fixed former which, by the descent of the former, cuts the stock which is to form the locket rim from the sheet, and forms it into a circular box cover at one operation. In combination with the above is a hollow cutting frame, provided with a sliding collar, for guiding the box cover or stock in such a manner that the descent of the hollow former cuts the refuse disc from the centre of the box cover to form a ring, and continuing, turns the severed edge of the ring downward, folds the edges together, and presses the doubled ring into the die successively at one operation, thereby forming a finished locket rim. Attached to the bed piece of a press is a vertically sliding clearer, provided with means for attaching and detaching a ring, for the purpose of freeing the locket rim from the outside of the former as it ascends.

Claim.—First, the combined hollow cutting former B, and die *m*, in combination with the spring piston *n*, and combined cutting die E, and fixed former *d*, as described, for the purpose specified.

Second, the hollow cutting former G, in combination with the spring piston *n*, and combined forming die F, and fixed former *d*, and a sliding collar *i*, substantially as described and for the purpose specified.

Third, the sliding clearer D, in combination with a detachable ring O, substantially as described, for the purpose specified.

Fourth, the hollow cutting former C, in combination with the spring piston *n*, and combined forming die F, and fixed former *d*, and the sliding collar *j*, substantially as described, for the purpose specified.

No. 32,906.—JOSEPH THOMAS, of New York, N. Y.—*Improvement in Lamps.*—Patent dated July 23, 1861.—Upon a shelf, secured to near the lower part of the wick-tube, rests a conical case, the top of which is fitted closely to the top of the wick, but not made a part of it. Currents of cold air are admitted through apertures at the bottom and pass out through apertures at the top, by which means a less degree of heat is transmitted to the wick-tube, and the wick is thus prevented from being scorched.

Claim.—Supporting the heating and deflecting piece F G, upon the casing J, which latter is interposed between the heating and deflecting piece F G, and the wick tube C, and so arranged as to retard the transmission of heat to the latter, substantially as set forth.

Also, in connexion with the above, allowing a portion of the air which passes between the heating and deflecting plates F G to first pass between the casing J and the wick-tube C, substantially as and for the purpose set forth.

No. 32,907.—CICERO D. VAN ALLEN, of Syracuse, N. Y.—*Improvement in Churns.*—Patent dated July 23, 1861.—This invention consists in providing valves or wings attached to the dasher of a churn with adjustable slides, for the purpose of enlarging or constructing apertures in the valves or wings to facilitate the breaking of the cream.

Claim.—The combination of the perforated adjustable slide I with the perforated dasher G, substantially as described.

No. 32,908.—J. DE LANCEY WATKINS and R. BRYSON, of Schenectady, N. Y.—*Improvement in Mowing Machines.*—Patent dated July 23, 1861.—The hub of the driving wheel is constructed in an oblong form so as to admit of catches and springs. Secured to the shaft of the driving wheel is the spur wheel, the hub of which is constructed with notches or recesses so formed as to allow the driving wheel to move in a backward direction without operating the cutter blade, and when the driving wheels move forward these recesess will receive the catches in the driving wheel hub, driven therein by means of coiled springs, and thus move the whole machinery. Projecting outward from the said catches is a stem which, by means of a hook, may be held, drawn back, or retained in the hub by a hook.

Claim.—The combination and arrangement of the large driving wheel A with slotted hub *m*, large spur wheel J with bevel notches *o* in one end of its hub, angular catches *d i d i*, spiral springs *g g*, and pivoted hoods *c c*, the whole constructed and operating together in the manner and for the purpose described.

No. 32,909.—M. F. WILLIAMSON and J. J. SWIGERT, of Hyattsville, O.—*Improved Corn Sheller and Cleaner.*—Patent dated July 23, 1861.—The endless feeding apron conveys the corn in the cob to the hopper. The concave is formed of two portions which, when united, make about three-fourths of a cylinder, having a number of spiral ribs on its inner surface which serve as shellers, and also to conduct the cobs towards the rear of the concave. The space between the edges of the concave at the bottom are filled up with longitudinal bars which allow the corn to drop between them. Within the concave is a rotary sheller which is slightly tapering in form, and is provided with a number of square projections arranged on it in a spiral form. An inclined riddle and fan-box are also connected with the machine.

Claim.—The arrangement of the endless feeding apron B, hopper B2, spirally ribbed concave C, shelling bars *d*, and spirally spiked shelling cylinder F, with the moving riddle G, fan L, and boards or box I, as shown and described, the parts being constructed and operating together in the manner set forth.

No. 32,910.—FRANCIS C. COPPAGE, of Terre Haute, Ind., assignor to J. R. OSGOOD, S. F. SMITH, and SAMUEL ALLAMON, of Indianapolis, Ind.—*Improved Machine for Turning Plough Handles.*—Patent dated July 23, 1861.—Fitting loosely in a circular opening in the bearing or supporting plate is a hollow journal-piece, the neck of which fits in a plate pulley, to which latter is attached two bits. The edges of the bits pass through slots in the neck of the hollow journal. A crooked or bent piece of timber may be passed through the hollow journal and moved by the hand so as to be shaped by the bits, similarly to a turning machine.

Claim.—The pulley B, bits E E, hollow journal-piece C, bearing and supporting plate A, anti-friction washers *f g h*, and disc D, when constructed and arranged substantially as shown and described, and operated for the purpose set forth.

No. 32,911.—HORACE C. CROCKER, of New London, Conn., assignor to Himself and W. H. BARNES, of the same place.—*Improved Steam-Pressure Gauge.*—Patent dated July 23, 1861.—The pressure of the steam acting upon the back of the metallic diaphragm, presses it forward against the curved elastic bar, which, pressing forward with a lever-like action against the back part of an angle piece, raises a pin, which turns a disc attached to a rock-

shaft, by which means the sector is moved, which latter turns the pinion and index, and the amount of pressure is indicated.

Claim.—The combination of the curved elastic bar G, flanged ring C, and angular piece I, with the diaphragm B and disc or arm J, in the manner shown and described.

No. 32,912.—JOHN FOWLER, jr., of Cornhill, county of Middlesex, ROBERT BURTON, of Kingsland, county of Middlesex, DAVID GREIG, of New Cross, county of Kent, and JEREMIAH HEAD, of Newcastle-on-Tyne, England, assignors to W. P. TATHAM, of Philadelphia, Pa.—*Improvement in Drums or Pulleys to Prevent Ropes from Slipping in Machinery for Ploughing and Tilling Land by Steam.*—Patent dated July 23, 1861.—Patented in England, January 24, 1859.—This invention consists in the employment of a winding drum, so constructed as to hold the rope firmly and draw the plough steadily forward, notwithstanding the rope only passes partially around the drum. On the periphery of the drum is mounted a series of levers turning on centres, and so placed that, as the rope comes up to the drum, it rests on the ends of the levers, and the pressure of the rope causes their ends to move in towards the centre of the drum. Immediately beyond the ends of the levers a flange is formed on the drum, and the axes on which the levers turn, being nearer the centre of the drum than the point at which the rope enters on the drum, causes the rope to become jammed between the ends of the levers and the flange on the drum.

Claim.—The mounting on a hauling or winding drum a series of levers or instruments on axes or centres, in such a manner that the motion of the levers or instruments caused by the strain or pressure of the rope will nip the rope, substantially as described.

No. 32,913.—B. HAWORTH, of Ridge Farm, Ill., assignor to Himself and B. F. CANADAY, of the same place.—*Improved Joiner's Bench-Vise.*—Patent dated July 23, 1861.—The object of this invention is to attach an ordinary bench-vise to the bench in such a manner that its jaws may be elevated above the top of the bench when required for use, or lowered so that the jaws may be out of the way and below the surface of the bench, leaving the latter wholly unobstructed.

Claim.—Having the foot-brace F and screw G of the vise passing through the slotted leg B of the bench, the screw working in the bar H, and the latter resting on or fitted over the foot-brace, when said parts are used in connexion with a lever K and a guide E, or their equivalents, and all arranged and applied to a joiner's bench, to operate as and for the purpose set forth.

No. 32,914.—H. ORMSBY and E. R. SUMNER, of Beloit, Wis., assignor to Themselves and J. A. CARPENTER, of the same place.—*Improvement in Cob and Feed Mills.*—Patent dated July 23, 1861.—Upon a hollow shaft is hung the inner dome-shaped grinding surface, which, by an arrangement of gears, is made to rotate in a direction opposite to that of the outer grinding surface. Upon the upper part of the inner grinding surface are cast breakers, consisting of vertically projecting plates with numerous small teeth, while the lower part of the same is provided with teeth of common form.

Claim.—In combination with the dome B and concave E, rotated in opposite directions and relatively adjustable, the grinding surfaces *f* and *g*, and the crushing device *d*, formed of vertically projecting segmental ribs with horizontal teeth, the whole arranged and operating as described, for the purpose set forth.

No. 32,915.—GEORGE S. REYNOLDS, of Tunbridge, Vt., assignor to Himself, JAMES BROWN, and J. M. WHITENEY, of the same place.—*Improvement in Harvesters.*—Patent dated July 23, 1861.—Upon the finger bar are a series of rotating toothed cutters, the axes of which are fitted between the axes of the large finger bars and the small intermediate guards. Motion is given to the cutter through a train of gearing by operating one of the wheels from the shaft. A plate or cap which covers the finger bar has projections upon its end which fit over the large fingers, and have each cutter permanently attached at their sides, so that the cutting of the rotating cutters will work underneath them like shears.

Claim.—The combination of the rotary toothed cutters C, horizontal train of gearing *d*, fingers B, small guards B′, and stationary cutters E, with the bar A, all constructed, arranged, and operating substantially in the manner and for the purposes shown and explained.

No. 32,916.—Wm. H. RICHARDS, of Newton, Mass., assignor to C. T. BABCOCK, of Boston, Mass.—*Improved Combined Knife, Fork, and Spoon.*—Patent dated July 23, 1861.—The knife is made in one piece and the fork and spoon in another. The handle of the knife is provided with two lips, which serve as a sheath to the prongs of the fork, and similar lips are turned over between the fork and spoon, so that the two parts are made to fit into each other, and thus secured together.

Claim.—The described combined knife, fork, and spoon, for camp purposes, when such are constructed and arranged in the manner set forth.

No. 32,917.—WM. J. STEVENS, of New York, N. Y., assignor to Himself and N. W. CONDICT, jr., of Jersey City, N. J.—*Improvement in the Means of Operating Valves of Steam Engines.*—Patent dated July 23, 1861.—This invention is designed more particularly for

direct-action steam engines for pumping, blowing, and other purposes, for which a reciprocating motion is required but no rotary motion is necessary, and it consists in an arrangement of and means of operating a secondary valve for admitting steam to act upon the pistons, to complete the movement of the main valve after its movement has been partially accomplished by a connexion with the main piston-rod.

Claim.—The arrangement of the secondary and main valves, side by side in the same chest, and in direct connexion with the same operating rod, the said rod having attached to it the pistons for completing the movements of the main valve, and having a lost motion with respect to the main valve, but none with respect to the secondary valve, all substantially as specified.

And the crank K and forked lever N, applied substantially as described, in combination with each other and with the valve-rod and main piston-rod, for the purposes set forth.

No. 32,918.—L. J. WORDEN and A. LEACH, of Utica, N. Y., assignors to Themselves and D. S. HEFFRON, of the same place.—*Improvement in Lamps.*—Patent dated July 23, 1861.—The object of this invention is to obtain a lamp for burning coal oil in railroad cars and other places where lamps are subjected to a jolting or vibratory movement, and the invention consists in supplying the flame with air by means of a circuitous draught-passage arranged vertically, in connexion with an air-chamber for equalizing the supply of air, and in such a manner as to avoid any external lateral supply of air to the flame.

Claim.—The combination of the concentric annular passage *e* and *b*, air-chamber *d*, and perforated shell D, all constructed and arranged as shown and described, and operating to protect the flame from lateral currents of air and equalize the draft, as explained.

No. 32,919.—WILLIAM WELLS, of Harrisburg, Pa., assignor to Himself, T. C. MCDOWELL, of same place, and A. B. LITTLE, of Washington, D. C.—*Improved Cot or Bedstead.*—Patent dated July 23, 1861.—Upon each side rail of a rectangular frame is permanently fastened a block, to each side of which are hinged the head and foot frames over which is stretched the canvas. The ends of the frames are each provided with recesses in which are placed coiled springs, which serve to keep the ends of the frames raised. When not in use the frames are fastened down by straps so as to occupy but a small space.

Claim.—First, hinging the head and foot frames D and E to the block C, and regulating their elevation by means of the springs *c c* and the straps and buckles *d d*, substantially in the manner and for the purpose described.

Second, counter-sinking the upper surface of the frame A, and the under surfaces of the frames D and E, so that thereby the springs may be wholly imbedded when the frames are brought close together by means of the straps and buckles *d d*, as and for the purpose set forth.

No. 32,920.—JOHN WYBERD, of New York, N. Y., assignor to F. S. LITTLEJOHN, of the same place.—*Improved Mode of Operating Slats or Blinds.*—Patent dated July 23, 1861.—Attached to the vertical sides of a frame is a series of levers provided with flat curved springs secured to the lever by loops so arranged that the springs are held firmly at their centres, while the ends are left free to press the slats of wood, glass, or other suitable material of any desired thickness, firmly against horizontal flanges, thereby retaining the slats in their proper places. The levers are operated by a strip of metal which moves freely on an eyelet axis upon the levers, the said strip being attached to a separate frame or strip connected by a spring to the sash or frame.

Claim.—The curved springs *c c c c*, loops *d d d d*, eyelets *e e e e*, arranged and operated in combination with the levers B B B B and spring S, in the manner and for the purpose substantially as described and shown in the drawings.

No. 32,921.—HIRAM STANHOPE, of Philadelphia, Pa.—*Improvement in Breech-Loading Ordnance.*—Patent dated July 23, 1861.—The invention consists in operating the breech of the gun by means of a cam attached to levers, by which the breech is withdrawn from the barrel and raised to a proper position for loading. When forced back into the barrel the breech is held in position by means of links connected with axis of the cam and secured to the support of the cannon.

Claim.—The combination of the eccentric B, the breech-piece A, the links N N, and the levers D D, when arranged and connected together substantially as described.

No. 32,922.—SAMUEL NOWLAN, of New York, N. Y.—*Improvement in Washing Machines,*—Patent dated July 30, 1861.—This invention will be understood by reference to the engraving and claim.

Claim.—First, providing the tub or case of washing machines with inner perforated side walls and bottom, arranged in relation to the outer walls and bottom substantially as shown and described.

Second, the combination with the outer and inner perforated side walls and bottom of a second bottom formed in two parts, each being hinged to opposite side walls, and both united at the centre by a toggle joint, and of suitable mechanism to impart to the said bottom the motion or motions, as set forth.

No. 32,923.—JOHN A. PARTRIDGE, of New York, N. Y.—*Improvement in Spinning Machinery.*—Patent dated July 30, 1861.—The endless band for giving direct or counter twist to the roping between the front and back drawing rollers is arranged to run upon four pulleys, the bearings for whose journals are supported by a beam fitted between the sides of the framing to which it is secured by screws passing through slots in the sides of the framing, which admits of the beam being moved back and forth to adjust the band at proper distances from the front and back drawing rollers for working the various lengths of staple.

Claim.—Making the endless band E adjustable toward and from the front and back drawing rollers, substantially as and for the purpose specified.

Also, the combination of the laterally adjustable band E with the adjustable rollers C C', in the manner shown and described.

No. 32,924.—W. P. PENN, of Belleville, Ill.—*Improvement in Seeding Ploughs.*—Patent dated July 30, 1861.—The gang plough frame is hinged to the rear of the axle and is elevated by the driver by means of a lever fulcrumed upon a standard which rests upon a roller that travels on the ground. The elevation of the frame and consequent tipping of the hopper actuates the seed-slides so as to close the seed openings.

Claim.—The gang plough frame D E F, with the hopper I arranged thereon, standard P, lever R, and shaft S, in combination with the transverse slides *m* and rods *n*, by means of which the flow of seed from the hopper is stopped by the elevation of the gang of ploughs, as described.

No. 32,925.—CHARLES RAYMOND, of Brattleborough, Vt.—*Improvement in Sewing Machine.*—Patent dated July 30, 1861.—This invention consists in a mode of applying and supporting an oscillating looper, and in a mode of adjusting the same for correct operation in combination with the needle. A reference to the drawings and description will be necessary for a proper understanding of the construction and operation of the devices.

Claim.—First, securing the pin *c*, on which the looper plate N oscillates, and the fixed pin *h*, to which the bridle rod *g* is attached, to a socket P, which is adjustable as and for the purpose specified.

Second, the bracket *d*, constructed with a flat inner face and applied in combination with the plate N, the looper pin *b*, and the looper M, substantially as and for the purpose specified.

No. 32,926.—GEORGE RINEWALT, jr., of Pendleton, Ind.—*Improved Wood-Planing Machine.*—Patent dated July 30, 1861.—This machine is designed more especially for manual operation, and the invention consists in the employment of a reciprocating planer which may be adjusted to plane stuff of different thicknesses, in connexion with a feed mechanism consisting of an eccentric placed upon the driving shaft and fitted in a yoke at the upper part of a vertical bar. The lower part of this bar is made to actuate a slotted lever, which in turn operates a ratchet upon a shaft, the inner end of which latter bears a pinion that gears with a rack on the under side of the carriage.

Claim.—The reciprocating planer I, placed in an adjustable frame E, in connexion with the feed mechanism of carriage J, composed of the eccentric R, fitted in a yoke *f*, of a bar S, and the bar connected to a lever O, which has a pawl P that engages with the ratchet N, of shaft M, the latter having a pinion L that gears into the rack K, of carriage J, all arranged for joint operation, substantially as and for the purpose set forth.

No. 32,927.—CHRISTIAN SHOLL, of Mount Joy, Pa.—*Improvement in Butt Hinges.*—Patent dated July 30, 1861.—The supporting portion of the hinge, which is secured to the frame of the door or blind, projects centially in a plane from its round portion, which is placed at the lower part of the leaf and has a spindle for supporting the other portion of the hinge, so that the hinge may be used for a door hung to the right or left hand side of the frame.

Claim.—As a new article of manufacture, the hinge composed of the two parts A B, arranged and operating substantially as specified.

No. 32,928.—JAMES SPEAR, of Philadelphia, Pa.—*Improved Fire-Board Stove.*—Patent dated July 30, 1861.—This invention consists in placing a register in that portion of the top of a fire-board stove extending into the room, for the purpose of allowing a current of air to pass through the stove into the chimney and thus ventilate the room.

Claim.—The combination of the register B and top plate A of a fire-board stove, when used in connexion with the body of the stove C and fire-board D' D', constructed for the purpose described.

No. 32,929.—ANTON SPELLERBERG, of Philadelphia, Pa.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated July 30, 1861.—Upon the upper side of the movable part of the barrel, is attached a bar which engages with a sliding catch, by which means the barrel is held in position for discharging. The hammer is placed underneath the lock and projects downwards.

Claim.—The combination of the barrel A, stationary breech B, projecting bar D, and spring catch E, with a lock of substantially the construction described and a downwardly projecting hammer G, the whole arranged and operating in the manner and for the purpose explained.

No. 32,930.—U. B. VIDAL, of Philadelphia, Pa.—*Improvement in Lamps.*—Patent dated July 30, 1861.—This lamp is designed for burning coal oil without a chimney, and consists of an expanded wick-top in connexion with a sliding tube provided with a flame spreader for regulating the flame. The handle of the lamp is made to form a receptacle for matches, and the bottom of the amp is roughened for the purpose of igniting the matches.

Claim.—The handle H, corrugated or roughened bottom *e*, expanded wick-top F', and sliding tube D, with flame spreader F attached, all being arranged as shown, to form a new article of manufacture for the purpose specified.

No. 32,931.—WARREN WADLEIGH and NATHANIEL F. MORRILL, of Sanbornton Bridge, N. H.—*Improved Machine for Turning Tapering Forms.*—Patent dated July 30, 1861.—Arranged in suitable bearings on the frame is a hollow cutter mandrel provided with two fast collars, a loose collar, and two pulleys. To the loose collar is pivoted one end of a slide to which the finishing cutter is attached, the said slide being fitted to move through guide slots in the fast collars on the mandrel and through a groove in the exterior of the body of the mandrel. Parallel with the mandrel is arranged a shaft carrying the pattern wheel, which acts upon a roller so as to produce a movement of the loose collar and the collar and the cutter slide along the mandrel either continuously or intermittently, thus producing a taper or swelled form by the cutter approaching or receding from the axis of the stick.

Claim.—The obliquely arranged cutter slide C, combined with the hollow mandrel B by means of a movable collar *b* and two fast collars *a a*, or equivalent guides outside of the mandrel, and controlled by a pattern wheel I, on a separate shaft L, applied substantially as described, the whole operating substantially as set forth.

No. 32,932.—ALEXANDER WARNER, of Brooklyn, N. Y.—*Improved Washing Knuckle.*—Patent dated July 30, 1861.—This invention consists in the employment of a series of rollers applied to a suitable hand piece or stock, the centre roller being placed at right angles with the stock, while those at either end are placed obliquely to the same, for the purpose of preventing a lateral movement of the device during the rubbing operation.

Claim.—A stock or hand piece provided with rollers of cylindrical or conical form, arranged as shown, to operate as and for the purpose set forth.

No. 32,933.—A. L. WEYMOUTH, of Boston, Mass.—*Improved Bridle Bit.*—Patent dated July 30, 1861.—The bit is formed of two cross-bars, the one passing through a slot in the other and pivoted at their centres. One of the bars is provided with a rack or series of teeth, and the other with a corresponding pawl which, by means of springs, is kept engaged with the opposite teeth, by which means the mouth of a vicious horse may be kept distended and his teeth prevented from holding the bit.

Claim.—The employment or use of an expanding bit, arranged or provided with a rack, pawl, and a spring or springs, to operate as and for the purpose set forth.

No. 32,934.—A. WHITE, of Geneseo, Ill.—*Improvement in Governor Valves for Steam-Engines.*—Patent dated July 30, 1861.—The valve is composed of two segments of a circle that cover the valve faces on the partitions forming the valve-seats, and are connected by bars or braces and a centre-piece through which the valve-stem passes and to which it is secured, so that the steam passes the valve on both sides, and the pressure on either side is balanced by that on the other.

Claim.—The mode of constructing the valve and valve chamber as described, so as to admit the steam from both sides for the purpose of equalizing the pressure and balancing the valve.

No. 32,935.—FRANCIS G. WILSON, of Ontario, Canada West.—*Improvement in Hay Rakes.*—Patent dated July 30, 1861.—The rake consists of a head-piece, to which the teeth are secured, and a sliding piece that moves upon the teeth. To each end of the slide is pivoted one end of a lever to which the draught ropes are attached, the other end of the lever being provided with a slot, and confined by a pin to the head-piece. By holding back the handles when the rake is in motion, the slide is made to move towards the ends of the teeth and throw off the hay that has accumulated upon them, and on pushing the rake forward the teeth again protrude through the slide.

Claim.—The slotted levers T, bolted to the head and slide so as to limit and govern the movements of the slide with the draught ropes U, attached so as to be adjustable, the whole operating conjointly and in combination with the head A, teeth B, slide E, and handles C, in the manner and for the purpose set forth and described.

No. 32,936.—JOHN K. WHITTEMORE, of Chicopee Falls, Mass.—*Improvement in Adjusting Knife for Feed-Cutters*—Patent dated July 30, 1861.—The stud or fulcrum pin on which the lever is mounted is cast with the mouth-piece, and at its foot are inserted four screws, against which is placed a collar or washer; the hub of the lever is then fitted upon the stud. By turning one or more of the screws the position of the face of the collar is changed, and consequently the position of the lever, so that by means of the screws the knife can be accurately adjusted to the mouth-piece.

Claim.—The screws *b b b b*, when applied and operating substantially in the manner and for the purpose described.

No 32,937.—WILLIAM DOUGLASS, of Westport, Mo.—*Improvement in Hand Corn-Planters.*—Patent dated July 30, 1861.—This invention is designed as an improvement on patent No. 13,820, granted November 20, 1855, and it consists in so constructing the apparatus that the charges of seed will be divided, and although planted on one hill they will be dropped into separate holes, for the purpose of allowing them to vegetate more rapidly and uniformly.

Claim.—The forked distributing tubes formed of blades A B, and a flexible material *d*, as described, in combination with the double discharging seed slide *g* and box G, all arranged and operating in the manner set forth.

No. 32,938.—GEORGE W. DYER, of Derby, Conn.—*Improvement in Skates.*—Patent dated July 30, 1861.—This invention consists in making the runner of two distinct bars, secured by screw bolts to ears or studs, projecting from the under side of the stock, so that the bars may be adjusted to different distances apart. The bottom surfaces of the runner bars are bevelled inwards, so that when brought together they will form a "guttered" runner.

Claim.—The combination with the stock of the two adjustable runner bars B and C, with their lower edges bevelled, as specified, the whole arranged and operating as described for the purpose set forth.

No. 32,939.—JOHN FOWLER and W. L. WALTER, of Homer, N. Y.—*Improvement in Churns.*—Patent dated July 30, 1861.—At the side of the body of the churn are guides, in which is fitted horizontally a metal bar having the axis of a large toothed wheel attached to it. The metal bar is allowed a sliding movement, and may be raised or lowered at one end, by which means the large toothed wheel can be thrown into gear with the pinion on the shaft that carries the wings, or that of the breaking discs, or with both pinions at once.

Claim.—The arrangement of the sliding or adjustable bar G with the wheel H, attached and arranged in relation with the pinions D *d* on the shaft B and disc *b*, to operate as and for the purpose set forth.

No. 32,940.—A. C. FUNSTON, of Philadelphia, Pa., assignor to Himself and THOMAS L. MORSS, of the same place.—*Improved Instrument for Sharpening Slate Pencils.*—Patent dated July 30, 1861.—This device is formed of a piece of elastic metal bent over and furnished on the inside of each end with a block of steel, each block having a recess which, when the the blocks are joined together, is conical in form. The edges of each block are so inclined as to present two cutting edges. The bent portion of the spring has an opening for the admission of a pencil, the point entering the conical opening between the blocks.

Claim.—First, the bent plate A, with the opening in the bent portion of the blocks B B, each block having a tapering recess and cutting edges *x x*, the whole being arranged and operating substantially as set forth.

Second, in combination with the bent plate A and its blocks B B, the wings *a a*, arranged as set forth for the purpose specified.

No. 32,941.—W. J. GASKILL, of Apalachin, N. Y.—*Improved Device for Adjusting the Rakes of Muley Saws.*—Patent dated July 30, 1861.—This invention consists of two casings or clamps connected together by bolts and cross-bars, and attached to a proper bed plank, in connexion with an adjustable eccentric guide or slide attached to the upper part of the saw, and fitted within the casings or clamps, for the purpose of causing the saw to run true at all times, without any vibration or play, and of adjusting it so that its rake may be varied as occasion may require.

Claim.—The eccentric guide F, employed in connexion with the casings or clamps B B, to adjust the rake of the saw, as explained.

No. 32,942.—THOMAS GRIFFIN, of Roxbury, Mass.—*Improvement in Flower Pots.*—Patent dated July 30, 1861.—This invention is explained by the claim.

Claim.—The flower pot A, constructed with a vertical tube or tubes B on its inner circumference, in combination with an annular secondary bottom C, which is constructed with a perforated tubular extension D, all in the manner and for the purpose described.

No. 32,943.—JAMES HIGGINS, of Chicago, Ill.—*Improved Mosquito-Bar Frame.*—Patent dated July 30, 1861.—This invention consists in constructing and securing together by hinges, frames of wood or other material, so that, when covered by a proper material, it may be used as a protection against mosquitoes or as a tent, and compactly folded when not in use.

Claim.—The combination and arrangement of the main frame with the two wing frames and the top and tent frames, substantially as and for the purposes specified.

No. 32,944.—JOSEPH M. HOADLEY, of Derby, Conn.—*Improvement in Skates.*—Patent dated July 30, 1861.—This runner is formed of one piece of steel bent up at the rear and forward ends, as shown by the engraving, the bent portions terminating in two flat stands or

plates, each of which has cut in it two slots, through which pass screws. The threads of these screws pass into cross-ties or plates let into the upper surface of the stock. The runner may thus be moved longitudinally on the stock, and the amount of spring or yielding of the stock relatively to the runner be adjusted.

Claim.—The combination with a stock A of an adjustable spring runner B, the whole arranged and operating as described for the purpose set forth.

Also, the combined arrangement of the cross-ties *d d* with stock A, stands *e e*, and screws *g*, the whole operating together in the manner and for the purposes described.

No. 32,945.—JEROME N. HODGE, of North White Creek, N. Y.—*Improvement in Sawing and Cutting Machines.*—Patent dated July 30, 1861.—This invention consists in securing a knife diagonally in a saw gate, which may also carry a vertical saw in the ordinary manner, the object being to make use of the same driving machinery for performing the two operations of sawing wood or cutting straw or small stuff.

Claim.—In combination with the gate J, the saw L and knife M, constructed and operated substantially as described.

No. 32,946.—D. A. JOHNSON, of Chelsea, Mass.—*Improved Mode of Securing the Spokes in the Felloes of Wagons.*—Patent dated July 30, 1861.—This invention consists in making openings in the inner and outer metallic bands which secure the sections of felloes together, which openings receive and fit around the spoke so that the shoulder of the spoke rests upon the material of the felloe instead of the metallic band as usual, the object being to prevent rattling as the shoulder wears upon the metallic band.

Claim.—In coupling spokes to the felloes of wheels at or near the joints thereof, so as to support the same by means of the spoke and a metallic band, as described; constructing said band with apertures through the inner and outer sides thereof, in the manner and operating as specified.

No. 32,947.—CHARLES KIESER, of Baltimore, Md.—*Improved Machine for Bending Fifth Wheels for Wagons.*—Patent dated July 30, 1861.—This invention consists in the use of a stationary disc and clamping device in connexion with movable pattern rings. The base and plates are perforated centrally with square apertures tapering downwards to receive a tapering square shaft. Projecting upward from the shaft is a stud journal, constituting a pivot for a socket hinged to ears, upon which is a weighted lever. Through a slot in the lever is inserted a set or former, which operates to swage down the outer edge of the ring. By moving the lever round upon its pivot the strip of metal is pressed around the periphery of the pattern ring. One end of the strip is secured by a clamp as the lever is moved around.

Claim.—First, the combination of the moveable pattern D, convex plate B, clamping plate C tapering shaft E, and sliding clamp L, all constructed and operating in the manner and for the purposes explained.

Second, the combination of the hinged tapering lever G *c*, stud-shaft E, and adjustable set H, constructed and operating substantially as and for the purposes set forth.

No. 32,948.—JOSEPH KLEPPER, of Wooster, O.—*Improved Tire Bending Machine.*—Patent dated July 30, 1861.—Upon a suitable base piece are secured two standards provided each with a series of holes through which passes an adjusting pin. Between the standards is placed a lever, provided on its under side with a removable curved block, and at its end with a metal loop secured by a set screw. In the rear of the curved block, on the lever, is an opening through which the tire passes as it is bent.

Claim.—The combination of the bottom frame piece F, and the standards E E', provided with holes *x x*, and adjustable pin *g*, when used in connexion with the free lever A, constructed as described, and provided with the loop D, and set screw *e*, the several parts being connected and operating in the manner set forth.

No. 32,949.—EDWARD LINDNER, of New York, N. Y.—*Improvement in Projectiles for Rifled Ordnance.*—Patent dated July 30, 1861.—The nature of this invention is stated in the claim.

Claim.—First, the method, substantially as described, of applying the malleable envelope or packing, first: by casting it around and against the annular cavity in the body of the projectile, and then expanding it by atmospheric or other presssure against the sides or interior surface of a finishing or forming mould or box.

Second, the method of securing the knit sleeve in or around the body of the projectile, substantially as described.

No. 32,950.—ROBERT MARCHER, of New York, N. Y.—*Improved Apparatus for Laying Metal Leaf on Mouldings, &c.*—Patent dated July 30, 1861.—This invention consists in first rolling the two ends of a metal leaf in opposite directions on two rollers, with the middle portion hanging between them. In this condition the leaf is lifted and carried to the prepared moulding, and the hanging portion of the leaf let down upon the middle portion of the width of the prepared and moistened portion of the surface to be covered with the metal leaf and the ends unrolled in opposite directions.

Claim.—Laying metal leaf on mouldings or other like surfaces by means of two rollers, or their equivalents, having a mode of operation substantially such as described, for rolling up the opposite ends of the metal leaf, laying and hanging the unrolled portion thereof on to the moulding, and then unrolling the ends in opposite directions, as set forth.

No. 32,951.—JOSHUA MERRILL, of Boston, Mass.—*Improvement in Casing of Stills.*—Patent dated July 30, 1861.—This invention consists in encasing the sides of the still with plates, or in any suitable manner, so as to surround the sides of the still with a confined air-chamber. The casing is constructed in such a manner as to admit of portions of it to be readily removed and replaced for the purpose of removing the still for repairs when necessary.

Claim.—First, encasing a still, substantially in the manner described, so as to surround the sides of the still with a confined air-space or chamber, substantially for the purposes set forth.

Second, making a portion of the casing removable for the purpose of facilitating the removal and replacement of stills requiring repair, substantially as described.

Third, combining with the casing openings and dampers or covers, for the admission and control of air circulation about the sides of the still, substantially as described.

No. 32,952.—MARTIN METCALF, of Grand Rapids, Mich.—*Improvement in Beehives.*—Patent dated July 30, 1861.—This hive consists of a square box divided into four equal compartments, and is made to revolve upon a stand. By turning the hive from its usual position the bees will enter a different compartment from the one they previously occupied, and artificial swarming may be produced. Moveable frames are hung in each compartment, one end of each of which is connected by means of a strip of tin, while the opposite end is provided in its centre with a piece of wire, at the end of which is secured a tin cylinder of sufficient size to allow of a bee passing through.

Claim.—First, the employment of a revolving beehive, so arranged that artificial swarming may be produced substantially in the manner specified.

Second, the employment of the movable frames D D, provided with cylinder *m*, when used in connexion with a revolving beehive, in the manner and for the purpose set forth.

No. 32,953.—FEDERAL C. ADAMS and JOSEPH PECKOVER, of Cincinnati, O.—*Improvement in Cooking Stoves.*—Patent dated July 30, 1861.—The division plate that separates the flues under the oven is cast with a tube or opening through it, the lower end of the tube connecting with or leading from an opening in the bottom plate to an opening into the oven, so that the air becomes heated in its passage to the oven. With the hearth and bottom fire-plate is cast a hollow wood support, through which air passes, and being heated passes out through openings in the back-plate, after mingling with the air and gases from the oven, and thus aids in the combustion of the heated products from the fuel.

Claim.—First, the hollow division flue-plate F, for introducing heated air into the oven in addition to its other duty of dividing the flue space, substantially as described.

Second, the combination of the hollow wood support *k*, air heating chamber *h*, and open fire back-plate J, for the purpose and in the manner substantially as represented and described.

No. 32,954.—JOHN ALLENDER, of New London, Conn.—*Improvement in Wringing Machines.*—Patent dated July 30, 1861.—This invention is explained by the claim.

Claim.—In elastic or yielding rollers for squeezing water from clothes and other purposes, making the core smaller in the middle than at the ends, and the elastic or yielding covering thicker at and near the middle, between the ends, than it is at or near the ends, substantially as described.

Also, the grooves in the core in combination with the ribs on the inside of the rubber or yielding cover, substantially as described, to prevent the covering from slipping on the core.

No. 32,955.—WM. D. BARTLETT, of Amesbury, Mass.—*Improved Furnace for Heating Buildings.*—Patent dated July 30, 1861.—The cold air is introduced into the upper part of the cold air chamber which encircles the hot air chamber, and this latter, in turn, encircles the air-heating chamber which forms a portion of the flues. The draught is equalized by means of dampers in connexion with the apertures which are largest in that portion of the flue most distant from the smoke pipe.

Claim.—First, the arrangement and combination of the cylinders A C′ E, with the cold air induction pipe C, hot air conveying pipes D D, fire-pot F, annular chamber I, and pipe L, substantially as and for the purpose set forth.

Second, having the openings *b c* at the bottom of the cylinder E of varying size, and placed in relation with the lower orifice of pipe L, as shown and described, for the purpose of equalizing the draught, and consequently the heat around the fire-pot F.

No. 32,956.—BENJAMIN S. BENSON, of Baltimore, Md.—*Improvement in Pipe-Moulding Machine.*—Patent dated July 30, 1861.—This invention consists in the construction of a pipe-moulding machine, in which the flask is packed as it is moving downwards, and in which the moulding sand is moistened at the moment of its being packed by water introduced through the packer-shaft.

Claim.—The introduction of water, or other suitable fluid, through a tube or packer-shaft to moisten the sand in the flask at the moment it is being packed, substantially in the manner and for the purpose described.

No. 32,957.—A. BIGELOW, of Hamilton, Canada West.—*Improvement in Rock Drills.*—Patent dated July 30, 1861.—This invention consists in having the cams which are employed in lifting the drill so arranged as to be adjustable and capable of being placed in an inclined position, so as to give the drill a rotary as well as a vertical motion. The cams are placed within an adjustable circular frame, through which the drill rod passes, and so arranged as to admit of the drill working in a vertical or in inclined positions, as circumstances may require. Over a shrive in the head of the drill rod is placed a cord, to which a weight is attached for the purpose of forcing the drill down when it is in an inclined position, and its own gravity is insufficient.

Claim.—First, having one or both of the cams F fitted in adjustable sockets E, substantially as shown, to admit of the placing of one or both cams in an oblique position, for the purpose of rotating, as well as lifting the drill rod D, as set forth.

Second, placing the cams F within an adjustable circular frame C, through which the drill rod D passes, said frame C being fitted between guides B B at the upper end of frame A, and arranged substantially as shown, to admit of the ready adjustment of the drill-rod D from a vertical position to any degree of inclination desired.

Third, in combination with the adjustable circular frame C, cams F, and drill-rod D, the the cord and weight J K, applied substantially as and for the purpose specified.

No. 32,958.—J. F. & W. L. BLACK, of Lancaster, Ill.—*Improvement in Gang Plows.*—Patent dated July 30, 1861.—Attached to the back part of the draught-pole is the lower end of a toggle, the other end being attached to the under side of the front part of the board, so arranged that as the driver pushes forward the upper end of a lever, and at the same time throws his weight forward on the foot-board, on arriving at the end of a furrow, the ploughs will be elevated from the ground so that the machine can be easily turned.

Claim.—The toggle L, with lever N attached, draught-pole F, foot-board J, driver's seat I, plow-beams C C, and axle A, combined and arranged to operate as and for the purpose set forth.

No. 32,959.—O. H. BOGARDUS, of Syracuse, N. Y.—*Improved Grade Delineator.*—Patent dated July 30, 1861.—The nature of this invention consists in recording undulations of ground by an instrument so constructed that, in its passage over a surface, it measures and notes its entire horizontal and perpendicular movement. To obtain a record of the horizontal movement over an inclined surface, use is made of two double frustrated pulleys of equal diameters at their middle points, but varying towards their ends, so that as the vehicle passes over a level surface, the band which moves the pulleys will be at the middle point, and give an equal motion to each pulley, but when upon an inclined surface the band is shifted by a weight to a position corresponding to the angle of inclination, and the motion of one pulley will produce motion in the other equal to the cosine of the angle, equal to the horizontal movement of the vehicle.

Claim.—The use of the pulleys L and M, in their combination with the driving and recording portions of the instrument, to obtain a record of the horizontal movement, substantially as shown and described.

No. 32,960.—HENRY F. BOND, of Waltham, Mass.—*Improved Machine for Sharpening Fence Pickets.*—Patent dated July 30, 1861.—The trough which supports the pickets is adjusted to their width and proper bevel by means of slotted castings and bolts. One side of the picket is scarped, when it is turned for cutting the other side, the chisel being actuated by a lever, which is operated by the foot, so that both hands are free for feeding the machine.

Claim.—The application of the adjustable slotted supports for the trough J, by which pickets of various widths can be cut, and with various bevels.

No. 32,961.—REUBEN CHADWICK, of Nantucket, Mass.—*Improved Self-Setting Trap.*—Patent dated July 30, 1861.—This invention consists of a revolving wheel, on which are constructed a series of baiting chambers, so arranged that as an animal steps upon a partition of one of the chambers the wheel revolves and drops the animal into an apartment below.

Claim.—Improved trap, having its entering chamber G, its series of baiting chambers F, and its receiving chamber O, constructed and arranged with respect to each other, and so as to operate together as described.

No. 32,962.—JOHN D. COCHRAN, of Milford, N. H.—*Improvement in Straw and Hay Cutters.*—Patent dated July 30, 1861.—On the lower part of the cutter frame is a projection which strikes against a movable block-piece, and operates a pawl and ratchet, which communicates motion to the endless apron when the cutter is actuated. With the cross head-piece of the cutter frame, is connected a movable frame, to which an additional knife is attached when it is desirable to use two knives, as in cutting and slicing vegetables.

Claim.—First, the combination and arrangement of projection *e*, movable block *f*, pawl *g*, and ratchet wheel *h*, operating in relation to each other for the purposes stated.

Second, the combination with the cross-head piece of the cutter frame of the removable frame H, with its knife G, and pins, constructed and operating as and for the purposes stated.

No. 32,963.—TRUMAN CROSSETT, of North San Juan, Cal.—*Improvement in Machines for Drilling Rocks.*—Patent dated July 30, 1861.—This invention consists in placing an adjustable hammer-shaft within a swinging or adjustable frame, and giving the drill, which is also fitted in said adjustable frame, a rotating movement from the hammer-shaft. The hammer-shaft is pivoted to the bar by which it is operated, and is secured at any suitable angle with the said bar by means of a pin passing the bar and through two semicircular bars, which are attached at their ends to the ends of the cross-bar.

Claim.—The swinging or adjustable frame C, suspended between the uprights B B, and having the hammer-shaft F and bar D fitted in it, and arranged with the clamp H and drill K, to operate as and for the purpose set forth.

Further, the connecting of the hammer-shaft F to the bar D, by a pivot or pin *e'*, and securing the shaft F, at any suitable angle with the bar D, by means of the pin *g* and semicircular bars E E, as and for the purpose specified.

No. 32,964.—THOMAS DARE, of Osceola, Iowa.—*Improved Culinary Boiler.*—Patent dated July 30, 1861.—This invention consists in placing one vessel within another, which latter is designed to contain heated water, the inner vessel being much smaller than the outer one, and secured within it by springs, so arranged as to admit of its ready removal.

Claim.—The inner vessel C, fitted within the vessel or boiler A when the former is provided with springs E E, arranged substantially as shown, to serve as an efficient fastening in securing C within A, and to admit of being readily manipulated to enable C to be withdrawn from A when desired.

No. 32,965.—GEORGE ERNEST CAMILLE DELAIRE, of Paris, France.—*Improvement in Aniline Colors.*—Patent dated July 30, 1861.—This invention consists in mixing with the aniline red of commerce, and prepared according to the process patented by Joseph Renard, pure aniline, to obtain at will a blue and violet coloring matter. For a description of the method, reference must be had to the specification.

Claim.—The method described of converting the red of aniline into the blue and violet of aniline, by treating the former with pure aniline, in the manner substantially as set forth.

No. 32,966.—JOHN DEMENT, of Dixon, Ill.—*Improvement in Constructing and Attaching Shields to Ploughs.*—Patent dated July 30, 1861.—The shield consists of a curved piece of metal rounded off at the rear and front edges. It is secured at its front end to the forward portion of the plough-beam by means of a curved bar, to which it is hinged; the rear of the shield is connected to the shank of the plough-blade by means of a rod, which allows the rear of the shield to rise and fall in passing over uneven ground.

Claim.—The arrangement of the shield A, the bar B, wedge *c*, and hinge K, with the attachment E and shank to which the plough-blade is attached, in the manner and for the purpose specified.

No. 32,967.—ELLIOT SAVAGE, of West Meriden, Conn., assignor to JULIUS PRATT & CO., of the same place.—*Improved Machine for Gauging and Toothing Ivory for Piano-Forte Keys.*—Patent dated July 30, 1861.—This machine consists of a set of revolving toothed planes or irons, placed upon a frame in such a manner that the ivory blanks which are fed along upon a slide or table will receive their action and undergo the operation of toothing and reduction to a gauge thickness at the same time.

Claim.—The toothing and gauging the ivory blanks by means of a series of revolving toothed irons placed in a revolving stock, so that the tooth-points of each will be in the same planes, and, in combination therewith, of a carrier, operating in such manner as to feed the ivory blanks to the planes automatically, substantially in the manner and for the purpose set forth.

No. 32,968.—ISAAC S. SCHUYLER, of New York, N. Y., assignor to JOHN J. ECKEL, of the same place.—*Improvement in Cotton Pickers.*—Patent dated July 30, 1861.—This invention consists of two elastic endless belts placed within a suitable case, and so arranged that, as the front end of the case is placed over a boll of cotton, the latter will be taken up between the endless belts and carried to the rear of the case.

Claim.—The combination of the two endless belts B C, placed within a suitable case A, and arranged for joint operation, substantially as and for the purpose set forth.

No. 32,969.—WELLINGTON CASE, of Waterloo, Iowa.—*Improved Strainer for Coffee and Tea Pots.*—Patent dated July 30, 1861.—This invention consists of a wire-gauze cylinder, provided with a door for the admission of tea or coffee, and revolving on journals supported by standards. On the sides of the standards or supporters are springs, for retaining the appa-

ratus in place in the vessel. The cylinder is made to revolve by the action of the water as it boils.

Claim.—The revolving cylinder tea and coffee boiler, supported by two upright supporters with springs on each side, as seen in drawing.

No. 32,970.—SOPHIA CARPENTER, of Flushing, N. Y., administratrix of WILLIAM CARPENTER, deceased, late of Metamora, Ill.—*Improved Automatic Fan and Fly-brush.*—Patent dated July 30, 1861.—This invention consists of a rock-shaft, to which the fan is attached, in combination with an eccentric wrist on a rotating wheel, in such a manner that, by the action of the wheel on the rock-shaft, an oscillating motion is imparted to the fan. Attached to an arm extending from the rotary wheel is a revolving fan, constructed with two wings placed obliquely in such a manner that, by the motion of the wheel and by the action of the air, an independent rotary motion is imparted to the fan, giving it a fluttering motion.

Claim.—First, the arrangement of the rock-shaft B, in combination with the fan A, connecting rod *c*, and revolving wheel F, constructed and operating in the manner and for the purpose shown and described.

Second, the arrangement of the adjustable link *g* and extension rod *e*, in combination with the revolving fan *j*, constructed and operating substantially as and for the purpose set forth.

No. 32,971.—AUGUSTUS ADAMS, of Sandwich, Ill.—*Improvement in Corn-Shellers.*—Patent dated August 6, 1861.—The apron-feeders are provided with cleats, and are separated by partitions, the upper edges of which are bevelled from about midway the length of the aprons to their upper ends. In the throat of the feed-spout is placed an auxiliary shaft provided with spur-wheels, for the purpose of preventing the spouts from choking. Under the sheller-wheels is placed a cob-rake or carrier composed entirely of wire, forming an endless belt for carrying off the grains of corn with the cobs from the machine.

Claim.—First, the apron-feeders B B, constructed substantially as described, with the bevelled partitions C C, for the purpose of delivering the ears of corn longitudinally to the spouts.

Second, the auxiliary shaft E, placed in the throat of the feed-spouts, in the manner described and for the purpose specified.

Third, the construction of the wire cob-rake or carrier H, as described, that it may have no flat surfaces upon which the corn may be lodged.

No. 32,972.—LOUIS H. BROWN, of Boston, Mass.—*Improvement in Keys for Piano-Fortes.*—Patent dated August 6, 1861.—This invention relates to a method of straightening porcelain used in the manufacture of piano-forte keys made of porcelain and wood, instead of ivory and wood or other material. The porcelain is first moulded in steel moulds under a heavy pressure, the finger side being made slightly curved. As the keys warp or become uneven they are straightened by introducing them into a muffle and inserting them in a reverberating furnace, when they become sufficiently ductile to yield to a pressure applied by weights to bring the tops to a level, levers and cams being applied to straighten the sides and square the back ends.

Claim.—The manner or process of straightening the porcelain, as set forth.

No. 32,973.—NORMAN H. BRUCE, of Shirley, Mass.—*Improvement in Fruit-Gatherers.*—Patent dated August 6, 1861.—This invention consists of a series of wire prongs, formed by bending a wire into V-shaped projections attached to a sheet metal cylinder, which is secured to a proper handle or staff and provided with a cloth tube, to conduct the fruit to the operator, without bruising it.

Claim.—The combination of the cylinder B, provided with the prongs C, staff or handle A, and conductor D, constructed and arranged as and for the purpose set forth.

No. 32,974.—E. H. CAMP, of Jackson, Mich.—*Improvement in Hot-air Furnaces.*—Patent dated August 6, 1861.—Within a large vertical pipe, secured to the top and near the rear end of the furnace-shell and communicating with a series of radiators, are pivoted two dampers, so arranged in relation to each other and the flue as to admit of a direct passage for the products of combustion to the chimney, and cause the same to pass through the radiators and indirectly to the exit-flue. The dampers are operated by means of a rod, to which they are connected, and which extends to the front of the furnace.

Claim.—The arrangement of the dampers K L, rod N, and vertical pipe D, with the shell A and radiators E F F' H J J G', all in the manner shown and described.

No. 32,975.—J. W. CHAPPELL, of Loomisville, Mich.—*Improvement in Hand Corn-Planters.*—Patent dated August 6, 1861.—The hopper is provided at one side with seed, which, being admitted to the inclined seed-passages, are forced down into the ground by rods attached to the lower end of a bar that is connected with the handle, by which means the kernels are planted separately and deposited in the hill at a proper distance apart and at a suitable and uniform depth in the ground.

Claim.—The combination of the rods *a*, box or hopper A, provided with a bottom *a**, having inclined seed-passages *e* and retaining bars *m*, the slide E, lever F, and handle D, all arranged for joint operation substantially as and for the purpose set forth.

No. 32,976.—HENRY S. CHICHESTER, of Brunswick, N. Y.—*Improved Changeable Double Plough.*—Patent dated August 6, 1861.—This invention consists of two right and left ploughs, connected together by means of two bars, crossed and pivoted together and fastened to the forward and rear part of the plough-beams by means of screw-bolts extending through holes in the crossed bars and slots in the plough-beams, so that the ploughs can be set at any desired distance apart, or disconnected and used separately.

Claim.—The combination and arrangement of the crossed bars C and D, pivoted together at their crossing point *f*, with the right and left ploughs A and B, so as to constitute an implement for simultaneously hilling up both sides of a row of corn, as described, the same being capable of alteration into two separate single mould-board ploughs, or a double mould-board plough, or a plough for simultaneously turning two separate furrows outward, or a potato-digging plough, as set forth.

No. 32,977.—JAMES CLARK, of Newark, N. J.—*Improvement in Retorts for the Manufacture of Prussiate of Potassa.*—Patent dated August 6, 1861.—The body of the retort is of an oval form, and at one end the journal is large enough to admit of supplying and withdrawing the charge, while the journal at the other end is solid. To the large journal is connected a square frame provided with a door, upon which is a bearing through which and the door passes a rod secured to a circular plate which closes the end of the journal. Between the door and the plate is a spiral spring, by which means the accumulated gases are allowed to escape and the fresh air prevented from entering.

Claim.—First, a retort for making prussiate of potassa of an egg or oval form, as described.

Second, the frame C, door D, bearing *e*, rod *f*, spring *h*, and plate *g*, when constructed, combined and arranged in the manner and for the purpose set forth.

No. 32,978.—ENOCH CONGER, of Milmore, Ohio.—*Improved Sawing Machine.*—Patent dated August 6, 1861.—The saw is connected at its end by cords to screw rods which pass through the cross pieces of the saw-gate, and have nuts on them, by screwing up which the saw will be strained, and the cords will form a flexible connexion between the ends of the saw and the rods, which admits of the saw being readily turned.

Claim.—Connecting the saw R to its straining-rods *g g*, by means of flexible cords F F, as and for the purpose set forth,

No. 32,979.—CHARLES W. COOPER, of Brooklyn, N. Y.—*Improvement in the Manufacture of Glue.*—Patent dated August 6, 1861.—The object of this invention is to expedite the carbonizing process to which the glue stock is subjected. When the skins or other material are taken from the lime or other alkali, they are well washed and then placed in a chamber and separated, so as to expose much surface to the action of the gas. Carbonic acid gas is then introduced into the chamber, and the skins, &c., are allowed to remain until the lime or other alkali in them, is all converted into a carbonate.

Claim.—The application to glue stock for the purpose of neutralizing the lime, or other alkali contained therein, of artificially prepared carbonic acid gas, in the manner set forth.

No. 32,980.—SAMUEL D. COOPER, of Hartford, Conn.—*Improved Fire Alarm Apparatus.*—Patent dated August 6, 1861.—This invention is explained by the claim.

Claim.—First, the combination with an alarm device of a series of knives N N, or other equivalent liberating contrivances, so communicating with the several apartments or appurtenances of the building or vessel, and so arranged in connexion with a tablet or dial that, on the liberation of the alarm device by the operation of any one of the liberating contrivances, produced by the occurrence of fire in its respective apartment, or part of the premises, or vessel, the said liberating contrivance will assume such a position on the tablet or dial that it may be seen which one has operated, and the spot where the fire has occurred may be made known, substantially as described.

Second, the combination of the weighted locking and unlocking lever K, of the alarm device, the cord *f*, for keeping the said lever in position to lock the alarm device, and the knives N N, the whole arranged and operating substantially as and for the purpose specified.

No. 32,981.—ISAAC C. CRANE, of Bronson, Mich.—*Improvement in Spading Machines.*—Patent dated August 6, 1861.—Upon the periphery of a revolving cylinder is arranged a series of spades, the shanks of which are pivoted in openings in the cylinder. Secured to the axle, and extending lengthwise through the cylinder, is a stationary cam, which, as the machine is moved along, moves the inner ends of the tripping levers or shanks, and causes the spades to descend into the ground. As the inner ends escape from the cam on the revolution of the cylinder, the spade is made to return to its first position by the action of a spring secured within the cylinder to the spade shanks.

Claim.—The combination of rotary cylinders A, segmental cam K, pivoted spades I, and springs J, all constructed, arranged and operating in the manner and for the purposes explained.

No. 32,982.—PHILIP and HENRY E. CRAPO, of Bridgewater, Mass.—*Improvement in Hoes.*—Patent dated August 6, 1861.—This invention is explained by the claim and engraving.

Claim.—A new article of manufacture consisting of a hoe formed with teeth occupying less than one-half its width, bevelled at back, and tapering gradually downward in width to narrow edges.

No. 32,983.—JOHN A. DAHLGREN, of Philadelphia, Pa.—*Improvement in Cast-Iron Ordnance.*—Patent dated August 6, 1861.—This invention consists in so shaping a cast-iron gun as to dispose all the metal available for the purpose, about the part where the greatest if not the whole force of explosion is exerted when the gun is discharged, whereby it is designed, with a given quantity and quality of iron, to make cannon which shall throw heavier projectiles, and a greater aggregate weight of them, than the cannon constructed by the usual rules.

Claim.—A cast-iron gun constructed substantially according to the rule described, whereby the quantities of metal disposed in the different parts of the gun are proportionate, or nearly so, to the relative degree of strain exerted by the force of the exploded charge at those parts respectively.

No. 32,984.—JOHN A. DAHLGREN, of Philadelphia, Pa.—*Improvement in Cast-Iron Ordnance.*—Patent dated August 6, 1861.—This invention is explained by the claim.

Claim.—The method described of manufacturing cast-iron ordnance, by first casting it in the rough of such proportions as will give the metal the most tenacity and freedom from contractile strains, and then reducing the casting to such proportions as will produce the form of gun best calculated to endure the shocks of discharge.

Also, the manufacture of cast-iron ordnance substantially as described, with the rear portion thereof of a substantially spheroidal form, and the exterior surface smooth and free from the mouldings and other ornamentation with which guns have heretofore been made.

No. 32,985.—JOHN A. DAHLGREN, of Philadelphia, Pa.—*Improvement in Cast-Iron Ordnance.*—Patent dated August 6, 1861.—This invention consists in casting the cannon without cascabel or trunnions for the purpose of securing uniformity in the texture and strength of metal throughout the whole mass of the gun, which is to be cast of a symmetrical form, without any angles, and as nearly as may be of equal diameters, or of a gradual taper, in order that it may cool simultaneously and regularly throughout. When the gun has been reduced to the proper proportion the slight swell at the base of the breech is notched so as to receive the trunnion strap, which embraces the rear of the cannon from the base of the breech to the locality of the trunnions, which, with the cascabel, is made in one piece with the trunnion strap.

Claim.—A gun having a body cast without trunnions or cascabel so as to obtain the condition of metal most favorable to strength, the trunnions and other accessories required for operating the gun being secured to its surface by means of a trunnion strap and band, or the equivalent thereof, substantially as described.

No. 32,986.—JOHN A. DAHLGREN, of Philadelphia, Pa.—*Improvement in Projectiles for Rifled Ordnance.*—Patent dated August 6, 1861.—This projectile consists of two parts: the body, which is of a conoidal, egg, or pear shape, and made of cast iron or other hard metal; and the base, made of lead or other soft metal, so that, when discharged from the gun, the soft metal is driven forward upon the rear end of the body of the projectile, which has the effect of wedging out the periphery of the soft metal bottom into close contact with the rifled surface of the bore.

Claim.—The elongated projectile described, with a hard metal body united to a soft metal bottom, substantially as described.

No. 32,987.—ELISHA DEXTER, of Holmes's Hole, Mass.—*Improved Refrigerator.*—Patent dated August 6, 1861.—The bottom of the chest is perforated, and a little above this bottom is a perforated stand which supports the ice, the intermediate space being filled with tan or other absorbent material, for the purpose of chilling the air in its passage to the ice chamber. Across a space beneath the cover is placed one or more layers of cloth for the purpose of absorbing the moisture and vapor arising within the refrigerating chamber. The space between the cloth and top of the cover is ventilated by means of holes in the side of the case.

Claim.—My improved refrigerator, having its several parts constructed and arranged in relation to each other, and so as to operate together, substantially in manner as set forth.

No. 32,988.—JACOB DIEHL and WM. WILSON, of Brooklyn, O.—*Improvement in Cider Mills.*—Patent dated August 6, 1861.—This invention consists in combining with a series of fluted rollers, stationary and revolving cutters, which serve to cut up the apples and force them into a box below, whence they fall upon the corrugated rollers.

Claim.—The special arrangement of the radial revolving cutters P H, in connexion with the stationary cutters *o*, in combination with the fluted rollers L S T I, as set forth and described, for the purpose specified.

No. 32,989.—J. E. DRAPER, of Northville, Mich.—*Improved Tool for Clinching Horse-shoe Nails.*—Patent dated August 6, 1861.—This device consists of two handles provided

respectively with jaws, one of which is of segment form and corrugated, and the other is of hook or curved form, so that the segmental jaw will extend upward on the hoof and press the point of the nail and clinch it, while the curved jaw will bear against its head and prevent it from being forced out.

Claim.—A horseshoe nail clinching tool composed of a serrated, segment-shaped jaw D, and a hook-shaped jaw E, attached respectively to pivoted jaws A B, and otherwise made as shown and described.

No. 32,990.—JOHN ELLIS, of Detroit, Mich.—*Improvement in Gate Latches.*—Patent dated August 6, 1861.—Secured to a post is a case in which are projections that support a vertically sliding tumbler. To the lower end of the case are secured lips curving to either side which permit the gate to be opened either way, and render the latch self-fastening.

Claim.—The tumbler *c*, in combination with the latch and catch, when operating conjointly, substantially as set forth for purpose described.

No. 32,991.—JOHN K. FISHER, of New York, N. Y.—*Improvement in Locomotives and Steam Carriages for Common Roads.*—Patent dated August 6, 1861.—This invention consists in a combination of parts, by means of which a locomotive or self-propelling carriage is enabled to run steadily with springs sufficiently flexible for common roads, and which may be easily steered. This invention does not admit of a brief description.

Claim.—First, the combination of the intermediate shaft C, and driving axle D, with their cranks E E, or crank-pins in the wheels, and the radius rod A, and parallel rod B, for the purpose of connecting engines to the driving wheels of a locomotive or steam carriage.

Second, the combination of the projecting springs F, and vertical shaft G, and the universal joint H, for the purpose of connecting the steering axle to body of a locomotive or steam carriage.

Third, the combination of the screw I, nut-rod J, screw-rod K, spring F, and crank or arm L, and the vertical shaft G, as described, for the purpose of steering a locomotive or steam carriage.

Fourth, the lurch-rod M, and the lurch-spring N, operating as set forth, for the purpose of limiting and softening the lateral movements of the driving axle.

No. 32,992.—M. L. GORHAM, of Winnebago Station, Ill.—*Improvement in Seeding Machines.*—Patent dated August 6, 1861.—Within the seed-box are placed transversely four vertical partitions extending nearly to the bottom of the box, and forming enclosures for wheels fitted on a longitudinal shaft. To the inner side of each partition is attached an inclined trough. The bottom of the seed-box, except at points under the wheels, is formed of inclined planes which guide the seed beneath the wheels. Communicating with openings in the seed box are V-shaped spouts provided with V-shaped partitions forming inclined passages, below which is placed an angular-shaped bar which scatters the seed so that it falls in a broadcast manner on the ground. When seed is to be sown in close drills these spouts are detached, and others provided with vertical central passages are substituted.

Claim.—First, in combination with the wheels E and troughs *g*, arranged as shown, the inclined surfaces or planes *c*, placed at the bottom of the hopper A, and in such relation with the partitions a^* thereof to operate as and for the purpose set forth.

Second, the spouts H′, provided with the partitions I, and scattering bars J′, in combination with the seed distributing wheels E, partitions a^*, and troughs *g*′, all arranged as and for the purpose set forth.

Third, in combination with the seed distributing wheels E, partitions a^*, and troughs *g*, the spouts K, provided with the central discharge passage b^*, side passages d^* d^*, and adjustable sides c^*, as and for the purpose set forth.

No. 32,993.—I. A. HEALD, of Springfield, Mass.—*Improvement in Machines for Making Cigars.*—Patent dated August 6, 1861.—This invention consists in arranging an endless belt to run over two cylinders and between two sets of rollers, so as to form between the two sets of rolls a loop for the reception of the unrolled filling for a cigar. Above the rolls is placed a circular brush for brushing the end of the wrapper down into the loop, and thereby starting it to roll round the filling. On the end of a shaft, which is moved up and down by means of a lever, is a rotary cutter for cutting off the end of the cigar after the wrapper is wound upon it.

Claim.—First, running a belt in the form of a loop, whereby a single belt encloses and forms a bearing for the whole outside surface of the cigar with the exception of a sufficient space to admit the wrapper, the whole being constructed and operated in the manner and for the purpose set forth.

Second, the use of a belt of unequal thickness, for the purpose of giving to the cigar any required degree of taper, or for giving it any other desirable form, the outline of the cross section of the belt corresponding with the outline of the longitudinal section of the cigar.

Third, the use of the rotary brush L for facilitating the insertion of the wrapper, and to insure the winding of the same around the filling.

Fourth, the use of a series of rotary cutters with either smooth or toothed edges for cutting and shaping the ends of cigars when constructed in the manner and for the purpose set forth.

No. 32,994.—WARREN HILL, of East Smithfield, Pa.—*Improvement in Washboards.*—Patent dated August 6, 1861.—This invention consists of a metallic plate provided with semi-spherical projections or knuckles, and secured by lugs and pins in a wooden frame.

Claim.—A washboard constructed of a rigid metallic plate A, journaled on its face with hemispherical knuckles or projections *a*, and at its edges with lugs *b*, the said plate constituting both the face and back of the board, and serving also to hold the sides of the frame together, all as shown and explained and for the purpose set forth.

No. 32,995.—JAMES HOOVER, of Lewisburg, O.—*Improved Automatic Boiler Feeder.*—Patent dated August 6, 1861.—Connected by a pipe to the top of the feeding vessel is a close chamber, within which is fitted in bearings an oscillating hollow rocker. Suspended from the rocker is a light rod which passes down into the feeding chamber, and upon which is fitted to slide freely a float between two shoulders on the rod, the float resting upon the water. The hollow rocker contains a ball which rolls from one end to the other, and by its weight carries down one end of the rocker, the other end raising a lever which moves the valves to a position in which one is closed and the other opened, when steam enters the feeding vessel and the check-valve is opened. The water flowing into the boiler, causes the float to descend and bring down the opposite end of the rocker, when the steam is shut off from the feeding vessel and opened to the atmosphere, and the feeding vessel fills again to repeat the operation.

Claim.—The employment in connexion with a boiler, reservoir, and feeding vessel, constructed substantially as shown, of the oscillating hollow rocker L, and self-adjusting weight O, in combination with the float N, lever K, and valves 3, 4, all in the manner and for the purpose shown and described.

No. 32,996.—A. HOUPT and J. K. GRIFFITH, of Reading, Pa.—*Improved Measuring Faucet.*—Patent dated August 6, 1861.—This invention consists in the application of a circular cut-off valve which is recessed in the bottom of the piston, and is operated by means of a rod passing down through the centre of the piston. This valve has a semicircular opening, corresponding with a similar opening in the piston, through which, when the latter is raised, molasses from the barrel to which the device is attached is made to flow. The piston being then lowered, the molasses is forced out through an aperture in the bottom and the flow cut off by the valve.

Claim.—The application of the circular cut-off valve V, recessed in the bottom of the piston for the purpose described.

No. 32,997.—THOMAS HUTCHINSON, of Green Point, N. Y.—*Improvement in Excavators.*—Patent dated August 6, 1861.—This machine consists of a frame mounted upon two driving wheels and two steering wheels; fastened to this frame is a cross-piece which carries the forward excavator, made in the form of a double mould-plough, which makes a continuous furrow. In the rear of this excavator is another excavator, made of two or more scoop-shaped implements fastened upon the same hub, and made wide at the hub and tapering towards the end. By means of gear wheels and a connecting rod motion is communicated from the driving wheels to the after excavator in such a manner as to form holes of any desired length, breadth, depth, and distance apart. By means of a tooth-rack and worm-gear the forward excavator may be raised free from the ground when necessary.

Claim.—The combination of the plough K with the scoop V, and the mechanism as described, by which the plough K is elevated or lowered.

Also, the scoop V, in combination with the plough K, and the mechanism as described, by which the movements of the scoop are regulated and controlled.

No. 32,998.—CORNELIUS JACOBS, of Columbus, Ohio.—*Improvement in Pans for Evaporating and Clarifying Saccharine Juices.*—Patent dated August 6, 1861.—This invention consists in having the partitions or division strips of the pan rest directly upon the bottom of the pan, so that the juice, in pressing under them, is distributed in a regular sheet over the whole bottom of the pan, and the passage of impurities along with the juice is prevented. The lower edges of the partitions are tapered or rounded off, so that a small amount of surface shall come in contact with the bottom of the pan, and the scorching of the juices will thus be prevented. The clarified juices escape into a vessel through a bent tube at the end of the pan, by raising or lowering the end of which the depth of the juice in the pan may be regulated.

Claim.—First, the specified arrangement of the division strips *a a*, for the purpose set forth.

Second, the specified construction of the lower edge of the strips *a a*, for the purpose set forth.

Third, the specified combination and arrangement of the adjustable bent pipe *l* and shallow evaporating pan with division strips *a a*, which are tapered at their lower edge, all in the manner and for the purpose described.

No. 32,999.—LOUIS F. A. LEGOUGE, of Grass Valley, Cal.—*Improvement in Quartz Crusher.*—Patent dated August 6, 1861.—This invention consists in the arrangement of a reciprocating cradle, in combination with a series of stampers, in such a manner that by the motion of the cradle the stampers are caused to act upon the quartz to be crushed. The

stampers are so arranged, in connexion with pins and cross-bars in the cradle, that they are allowed to rise, but are prevented from coming down beyond a certain point.

Claim.—First, the arrangement of a reciprocating cradle A, in combination with a series of stampers B, constructed and operated substantially in the manner and for the purpose described.

Second, the arrangement of the pins or stops *c*, and cross-bar *b*, in combination with the stampers B, and cradle A, as and for the purpose set forth.

No. 33,000.—BENJAMIN LEVALLEY, of Hartford, and S. B. LEVALLEY, of Manchester, Conn.—*Improvement in Temples.*—Patent dated August 6, 1861.—This invention consists of a pair of jaws, one or both being grooved or serrated in the direction, or nearly so, in which the cloth is woven, and drawn through between the jaws of the temple, which are so adjusted upon the edge of the cloth that the cloth will slip freely through the jaws of the temple in the direction in which it is woven, while the jaws hold it so firm widthwise as to serve the purpose designed in weaving.

Claim.—A pair of stationary jaws, one or both being grooved or serrated, substantially as described for the purpose specified.

No. 33,001.—THALES LINDSLEY, of Moline, Ill.—*Improved Oar.*—Patent dated August 6, 1861.—The nature of this invention consists in dividing the loom into two levers with independent fulcra, and so connecting and adjusting them as to secure the following results: 1. Movement of the levers in the same plane, but in opposite directions, by means of which the oarsman can sit with his face to the point of destination; 2. The feathering of the oar at every stroke; 3. Shipping and unshipping the oar by a single motion in a right line; 4. Enabling the levers to assume a parallelism with respect to each other—in other words, to fold up, in or out of the boat and along the gunwale.

Claim.—First, the hinge represented in Figs. 1 and 2, when constructed and operating substantially as described.

Second, the frame *f f f* supporting the carriage way *g g g*, and preserving the two divisions of the loom in the same plane, as specified.

Third, the loom as divided into two general levers, with independent fulcra, and as acting upon each other through the instrumentality of the segments attached, as and for the purpose set forth.

Fourth, the third class of feathering apparatus, as described and represented.

Fifth, dividing the carriage way into two parts, which are united by interlapping or scarfing, for the purpose set forth.

Sixth, the hinge, the frame, and the divided loom, in combination with the third class of feathering apparatus and its divided carriage way, all as and for the purposes specified.

No. 33,002.—W. D. LUDLOW, of New York, N. Y.—*Improved Device for Stopping Jars, &c.*—Patent dated August 6, 1861.—Extending across the centre of the lever is a bar, to which are attached two curved inclined arms, which catch under lugs on the sides of the neck of the jar, so that in turning the bar it is forced down tightly upon the cover. The cross-bar is provided at its centre with an elastic bearer to admit of the adjustment of the cover to the top of the jaw.

Claim.—A can top that is composed of a central cross-bar, an elastic bearer, and curved inclined arms A, the whole combined as shown and described.

No. 33,003.—M. W. MASON, of Elbridge, N. Y.—*Improvement in Ox Yokes.*—Patent dated August 6, 1861.—The yoke is encompassed at its centre by a metal strap formed of two parts connected by horizontal keys, which pass through loops on the two parts. At the inner side of the lower part of the strap is a ledge, which fits into a transverse groove on the under side of the yoke, and by means of a wooden key in the groove at either side of the ledge the position of the strap on the yoke may be varied, and either animal favored with the draught, as may be desired.

Claim.—The strap C, when formed of two parts *c d*, connected together substantially as shown, and the lower part *d* provided with a ledge *i*, which is fitted in a groove *j*, in the under side of the yoke, and secured thereon by a key or keys *k*, substantially as and for the purpose specified.

No. 33,004.—BENTLEY MASSLICH, of Union City, Ind.—*Improved Apparatus for Papering Walls.*—Patent dated August 6, 1861.—This invention consists in the use of a portable box which holds the paste and is provided with a roller, between which and a roller placed above, the paper is made to pass as it is unrolled from a rod at the rear of the box, by which means the under side of the paper is provided with a coating of paste. In connexion with the above is used a smoother, consisting of two strips secured together in V form and connected by a cross piece to which the handle is connected.

Claim.—The paste box A, provided with the rollers C D, and paper roll F, when arranged substantially as and for the purpose set forth.

Also, in combination with the paste box A, rollers C D, and paper roll F, the smoother H, constructed substantially as and for the purpose specified.

No 33,005.—FERDINAND F. MAYER, of New York, N. Y.—*Improvement in Bleaching Fatty Substances.*—Patent dated August 6, 1861.—This invention consists in the employment of brown oxyd of lead, either pure or in composition with other substances, for the purpose of bleaching and refining fatty substances, such as linseed oil, animal or vegetable wax, tallow, &c.

Claim.—The employment of brown oxyd of lead, either pure or in combination with other substances, substantially in the manner specified for the purposes set forth.

No. 33,006.—WILLIAM H. PERRY, of St. Louis, Mo.—*Improvement in the Manufacture of Iron.*—Patent dated August 6, 1861.—The machine used in this invention consists of six rollers secured to a frame. Four of these rollers are corrugated, and two are plain. The iron, just as it is drawn from the blast furnace, is passed through this machine, which reduces it to a crumbled mass.

Claim.—Preparing the iron for the puddling furnace, by passing it through the machine described, soon after it has come from the blast furnace, before it has had time to cool, and while it is red hot, so as to reduce it to a crumbled mass.

No. 33,007.—JOSEPH RIDER, of Newark, O.—*Improvement in Water Elevators.*—Patent dated August 6, 1861.—In the upper part of the curb is placed a transverse partition, hinged at one side in such a manner that, as the elevated bucket comes in contact with it, the bucket is caused to swing outwardly, so that a spout with which it is provided is made to pass through an opening in the curb, provided for the purpose, below a hinged door. At the same time a curved valve-rod, attached to the valve in the bucket, catches in a notch in the under side of the door, and causes the contents of the bucket to be discharged.

Claim.—The use of the hinged partition *p*, in connexion with the buckets *m m*, the notched swinging doors *l l*, the curved valve-rods *r r*, and the valves *s s*, substantially in the manner and for the purpose set forth.

No. 33,008.—ALBERT RUSSELL, of Newburyport, Mass.—*Improvement in Pumps.*—Patent dated August 6, 1861.—This invention consists in applying to the main induction pipe a short auxiliary induction pipe projecting downward from the lower valve opening into an air chamber formed around the said auxiliary pipe, and between the lower valve and the upper end of the main induction pipe, for the purpose of avoiding the jerking action of the piston at the commencement of the up stroke.

Claim.—My improved pump, as constructed with the auxiliary induction pipe F and the air chamber or vessel G arranged, relatively to each other, to the lower box or valve, and to the main induction pipe E, as specified.

No. 33,009.—JAMES I. SHAFER, of Burlington, Iowa, assignor to B. I. ROBESON, of the same place.—*Improvement in Grain Winnowers.*—Patent dated August 6, 1861.—The object of this invention is to separate oats, black weed, &c., from the wheat, and it consists in placing under the perforated zinc screens, reversely inclined boards, which cause the wind to be deflected upwards through the holes in the screen. A short, rapid motion is given to the screens by means of connecting rods attached to wheels provided with eccentric holes, and placed on the end of the fan-shaft.

Claim.—First, the screens *a* and return boards *b*, in combination with the direct fan-blast through the screens, when arranged as and for the purposes set forth.

Second, the combination of the short uniform shake with the mode of applying the currents of air to the grain, substantially as described.

No. 33,010.—S. M. SHERMAN, of Fort Dodge, Iowa.—*Improvement in the Construction of Brooms.*—Patent dated August 6, 1861.—This invention is explained by the claim and engraving.

Claim.—A broom provided with an upper riveted band B, having socket protuberances *b* to receive and hold the handle, and a lower riveted band C, attached both to the body of the broom and to the handle, all as shown and described.

No. 33,011.—JOHN SWEENEY, of Chicago, Ill.—*Improvement in Blow-Cocks for Locomotives.*—Patent dated August 6, 1861.—Into the plate of the boiler, at a point convenient to the hand of the engineer, is screwed a barrel provided with a valve. To this barrel is connected a pipe which leads over the top of the boiler to the chimney, by means of which steam is conducted to the chimney to increase the draught.

Claim.—The arrangement of a blow-cock or valve, as described, upon the front or dome of a boiler, and with a pipe leading to the chimney, in the manner and for the purpose specified.

No. 33,012.—JOHN THOMPSON, of Clifton, N. Y.—*Improved Machine for Boring Wagon-Hubs.*—Patent dated August 6, 1861.—For an understanding of this invention reference must be had to the specification and drawings.

Claim.—First, the combination of the boring arbor C, and its mortise with the vibrating cutter-bar B working in the arbor, as described.

Second, the revolving disc, with its center, opening, and slot connected; also, its combination with the dog rod and dogs.

No. 33,013.—ALONZO WEBSTER, of White River Junction, Vt.—*Improved Seed-Planter.*—Patent dated August 6, 1861.—At the front of the lower part of the hopper, and directly over the slide, is placed a horizontal knife extending the whole width of the hopper. In the top of the frame is secured vertically a knife, which works in a slot made in front and rear of a circular opening in the slide. As the machine is drawn along a reciprocating movement is given to the slide, and at each movement a potatoe drops into the hole, when it is cut by the two knives, the pieces dropping through a tube into a furrow made by a share attached to the machine.

Claim.—The horizontal and stationary knives J K, applied respectively to the hopper I and frame A, and, in relation with the openings *f* and slots *g* of the slide H, to operate as and for the purpose set forth.

No. 33,014.—EDWARD WEISSENBORN, of New York, N. Y.—*Improved Method of Making Iron Chains.*—Patent dated August 6, 1861.—This invention is explained by the claim and engraving.

Claim.—The method of making chain links, as described, which consists of winding the iron into a circle or ring of the form shown at Fig. 2, then welding it throughout its entire circumference into one solid piece before it is linked into chain, and rolling it out so that its section will be circular, and so made smooth and fit to be used for chain.

No. 33,015.—ADAM BRIGHTBILL, of Bethel Township, Pa., assignor to Himself and JOHN BRIGHTBILL, of the same place.—*Improvement in Corn-Planters.*—Patent dated August 6, 1861.—To the front of the main frame are hinged the plough frames, supported at their rear ends on wheels. The front ends of the ploughs are connected to bars on the plough frames by means of two wooden pins. By means of a second or counter shaft, in connexion with a gear-wheel and shifting-bar, the planting apparatus is thrown out of gear when desirable.

Claim.—First, the independent plough frame P, wheels R, ploughs S, bar T, pins U U, combined and arranged for the purpose, as more fully described and specified.

Second, the combination of the gear-wheel G, shaft H, shifting-bar M, lugs K and L, for the purpose of throwing the planting apparatus into and out of gear, as described and specified.

Third, the frame A, when used in combination with the independent plough frame P, as more fully described and specified.

No. 33,016.—HENRY A. FROST, of Worcester, Mass., assignor to H. S. and D. H. WHITTEMORE, of the same place.—*Improved Apple Parer.*—Patent dated August 6, 1861.—The table is hinged by a pin to an arm of the stand, and is moved about over the gear, according to the position of the pin which moves it. This pin, being attached to the gear, moves round with it, and, when it has passed a certain point, its motion is then backwards, and carries with it the table, with knife attached, at a much faster speed, so that but little time is lost in getting the paring knife back again after having pared the apple.

Claim.—First, in combination the table E, with paring knife attached, the pin N and gear G, or their equivalents, for the purpose of moving the paring knife around the apple and causing it to return, substantially as described.

Second, the cam, or its equivalent, upon the gear G, for the purpose of forcing the knife back from the apple on its return motion, after having pared it.

No. 33,017.—CONSTANTIN HINGHER, of New Brunswick, N. J., assignor to the NOVELTY RUBBER COMPANY.—*Improvement in Stems for Smoking Pipes.*—Patent dated August 6, 1861.—This invention consists in the use of a condensing chamber, into which the part of the stem to which the bowl is attached is inserted, the said part of the stem being elongated within the chamber, so that the condensed oil or moisture will be prevented from flowing back into the bowl.

Claim.—The stem of a smoking pipe having a condensing chamber to be used without the insertion of any substance therein, and so constructed that the oil or moisture which is therein condensed is prevented from running back into the pipe, substantially in the manner and for the purpose set forth.

No. 33,018.—JOHN L. KRAUSER, of Philadelphia, Pa., assignor to Himself and JAMES HARPER and JOHN H. BROWN, of the same place.—*Improved Nail Machine.*—Patent dated August 6, 1861.—The nature and object of this invention will be understood from the claim.

Claim.—First, in combination with a movable cutter, a horizontal table that is vibrated past its central line at the rear only, and not at its front, and that is capable of holding a pile of nail plates, from which the under one of the pile can be taken and fed up, and which is at rest whilst the cutter is acting, substantially as described.

Second, supporting the rear ends of the pile of plates upon an arm or tongue, for the purpose of allowing the plate carrier to move under them, and take and carry forward the lower plate of the pile, substantially as described.

Third, the nail-plate carrier L, having a longitudinal and a cross groove in it, for the purpose of allowing it and the arm that operates it to move past and under the tongue that holds up the nail plates, substantially as described.

Fourth, the lip or ledge *n* on the nail-plate carrier, for the purpose of preventing the rear end of the nail plate from tipping under the action of the cutter, substantially as described.

Fifth, in combination with a vibrating table, the bridge and brace for holding the nail plate and table down against the rising action of the cutter, substantially as described.

Sixth, in combination with a vibrating table, the lateral adjustment thereof, by means of the set screws 17 at its front end, for regulating the forming of the heads on each side of the griping jaws, substantially as described.

Seventh, in combination with a vibrating table, the regulating of the taper of the nails by increasing or diminishing the throw of the rear end of the said table, substantially as described.

Eighth, a slot in the side of the table for allowing the spring lever M to form a working connexion with the plunger or nail-plate carrier, substantially as described.

Ninth, in combination with the table, plunger, and spring lever, the pivoted switch, to allow the lever to pass, but prevent the nail plates from entering the slot, substantially as described.

Tenth, in combination with the bed griper *w*, the nipper rod *y*, placed in a groove in said bed griper, substantially as and for the purpose described.

Eleventh, a yielding and adjustable turning rod, constructed and operating substantially as described.

Twelfth, the attaching of the turning rod to the griping lever, so that it shall receive its motion from said griping lever with which it acts in concert, substantially as described.

Thirteenth, the employment of two headers upon one rocking-shaft, substantially as described.

Fourteenth, the combination, in a right and left heading nail machine, of a double cutting cam and a double griping cam on a revolving-shaft, and a double heading tool on a rocking-shaft, substantially as described.

No. 33,019.—E. R. MORRISON, of South Bergen, N. J., assignor to the HANLON BROTHERS, of New York, N. Y.—*Improved Locomotive Apparatus.*—Patent dated August 6, 1861.—This invention is more particularly designed to be applied to dolls and other toys, and it consists of a frame or box supported upon legs and feet, which, by the action of a spring or other motive agent within the said frame or box, are caused to have an alternating step by step movement, resembling that of walking.

Claim.—First, the combination with a box or frame, containing a spring or other motor, of one or more pairs of legs and feet, which support the said box or frame on opposite sides thereof, and which are so actuated by the mechanism within the box that the legs on opposite sides have an alternating step by step movement, substantially as described.

Second, the construction of the legs of parallel bars connected by pin joints with the feet, and with upright slides C C, either with or without joints *g g*, substantially as described, for the purpose of causing the feet to be placed flat on the floor at every step.

Third, the eccentrics I I' applied, in combination with the legs, to produce combined upward and downward and forward movements, substantially as described.

Fourth, the extension of each foot in a lateral direction beyond the centre of gravity of the apparatus, substantially as and for the purpose specified.

Fifth, the combination of the knee joints *g g*, the rods *r r*, or their equivalents, the wipers *p p*, and the springs *j j*, the whole operating substantially as specified.

No. 33,020.—WILLIAM QUANN, of Philadelphia, Pa., assignor (through mesne assignments) to Himself, WILLIAM N. TAYLOR, and LATHROP & WETMORE, of Philadelphia, Pa.—*Improved Process for the Reduction of Iron Ore.*—Patent dated August 6, 1861.—This invention is explained by the claim.

Claim.—An improved process for the reduction of iron from the ore, consisting in the use of solutions of wood ashes, pulverized charcoal, carbonate of ammonia, a fixed oil and common salt, mixed in the proportions and used in the manner substantially as described.

No. 33,021.—WELCOME SPRAGUE, of Farnham, N. Y., assignor to Himself, D. E. BARKER, and WILLIAM VAN DUZER, of Angola, N. Y.—*Improvement in Reaping Machines.*—Patent dated August 6, 1861.—Upon the side piece of the main frame is fulcrumed a lever, to the upper part of which is hinged a long handle which carries the rake. Lying adjacent to and parallel with the inner side of the main frame, above and out of the way of the gearing, is an endless apron, which carries the cut grain along to the binding table, where it is bound by the operator and thrown upon the ground.

Claim.—The combination and arrangement of the self-acting rake T, for moving the cut grain from the platform, a binder's stand and table R, and an endless apron P, for carrying the grain to the binder, so that the grain may be bound by hand upon the machine, substantially as set forth.

No. 33,022.—E. M. STEVENS, of Medford, Mass., assignor to WILLIAM N. ELY, of Stratford, Conn.—*Improved Hand Pegging Machine.*—Patent dated August 6, 1861.—The nature of this invention is mainly explained by the claim. The pegs are fed forward as they are driven by means of a forked rod supported in bearings, and driven backwards by a cam on the plunger, and forward by a spiral spring, in connexion with a small pawl pivoted in the forked rod, a spring pressing the point of the pawl down upon the peg wood.

Claim.—First, making the awl and peg-driver in two pieces, and so uniting them to a plunger as that, whilst both rise and descend together, one of them shall have a lateral motion independent of the other, for the purpose of feeding the machine to the work, substantially as described.

Second, the device I, or its equivalent, in combination with the plunger and rod H, for feeding the pegs forward as they are driven.

No. 33,023.—J. C. STODDARD, of Worcester, Mass., assignor to Himself and W. A. HACKER, of the same place.—*Improvement in Horse Rakes.*—Patent dated August 6, 1861.—Keyed to the hub of the carriage-wheel is a large spur-wheel, with which is made to gear a small pinion-wheel keyed to a short transverse rock-shaft, which has its end bearings in a bracket on the axle and in the short arm of a loaded lever, so arranged as to be depressed by the foot of the operator, by which means the rake may be brought into a working position and thrown up again out of the way of the hay. Two of the teeth on the pinion-wheel are made longer than the others, so as to throw the large spur-wheel out of gear at every half revolution, and the weight on the lever, in which the rock-shaft has its bearings, will keep the pinion out of gear until the short arm of this lever is again depressed. By means of a double cam-plate keyed to the rock-shaft the large wheel is kept in gear with the pinion until the former can make half a revolution, and thus throw the rake up out of the way.

Claim.—First, combining with the driving gear E on the carriage-wheel B, the pinion spur-wheel F keyed to a rock-shaft G, having one of its end bearings in the short arm of loaded lever I, and operating as set forth.

Second, in combination with the pinion F and the loaded lever I, having its bearing in standard J, the cam-plate *g*, and catch projection *f*, and the long teeth *e e* on spur-wheel F, all arranged and combined as set forth.

Third, connecting the rake head D to the rock-shaft G, operated as set forth by an extension pitman rod K, crank-arm *d*, and arm L, substantially as set forth.

Fourth, bracing or sustaining a spring tooth rake by means of a back brace, constructed and applied to the rake, substantially as set forth.

No. 33,024.—GEORGE E. BURT, of Harvard, Mass.—*Improvement in Endless Chains and Tread of Horse-Powers.*—Patent dated August 6, 1861.—This invention consists in forming upon one end of the link of an endless chain a stud or projection that, while the wheel is passing from the straight track over the first quandrant of the end track, shall come in contact with the wheel, and act as a brake to arrest its motion and allow it to reach the opposite track in a state of rest. The hole which receives the joint coupling is made oblong to facilitate the action of the brake, and relieve the coupling pin of strain.

Claim.—First, a stud or projection attached to one end of a link which shall act as a brake on the wheel of the adjacent link, substantially as and for the purpose specified.

Second, connecting the links of endless chain horse-powers by pivots working in elliptical holes *c*, as explained, so as to permit vertical but prevent endwise play.

Third, combining the treads with recessed links and safety bars, all held firmly together by end bolts, substantially as and for the purpose specified.

No. 33,025.—R. BOEKLEN and W. STAEHLEN, of Brooklyn, N. Y.—*Improvement in Buttons, or Garment Fasteners.*—Patent dated August 13, 1861.—This invention consists of two discs, to be placed on each side of the garment, and provided, the one with an opening, and the other with a cam, so formed that when the latter is introduced into the opening of the first, and turned, the two will be secured together.

Claim.—A button, or garment fastener, formed by the employment or use of two discs A B, one being provided with an opening *a*, and the other with a cam *b*, substantially in the manner and for the purpose specified.

No. 33,026.—ISAAC V. BROWER, of Millstone, N. J.—*Improvement in Corn Harvesters.*—Patent dated August 13, 1861.—This machine is provided with a platform, upon which the attendant stands, so situated as to enable him to seize the tops of the stalks as they are severed by the cutter, and drop them upon the gavelling apron, whence they are deposited upon the ground.

Claim.—The arrangement of the gavelling or endless apron K with its gearing, and the cutter with its gearing in relation to each other, and to the stand or platform for the attendant, substantially in the manner and for the purposes specified.

No. 33,027.—SAMUEL BROWN, jr., of Norristown, Pa.—*Improvement in Telegraphic Instruments.*—Patent dated August 13, 1861.—This invention consists in making a transient

connexion with any ordinary telegraph line by securing the main line wire by means of two clamps attached to a piece of wood, or any other non-conductor, and, when the main line is so secured by the clamps, it is separated by means of a cutter attached to the non-conductor; the circuit will then pass from the main line to the clamps, which are connected with a telegraph magnet by the rims attached to the clamps by a cross-bar of wood, or any other non-conductor.

Claim.—The clamps, as described, for holding the main line wires while it is separated by the cutter to open the circuit and prevent it from coming in contact with the ground, and the movable cross-bar I for attaching the connecting wires M and M to the connecting posts H and H, and the center screw L for moving the cross-bar I, so as to close the circuit by bringing the conducting facing or lining of the cross-bar in connexion with the jaws A A of the clamps, substantially as set forth and described.

No. 33,028.—GEORGE E. BURT, of Harvard, Mass.—*Improvement in Endless Chain Horse-Powers.*—Patent dated August 13, 1861.—This invention consists in combining the chain of the platform with the balls or rolls by means of end tracks or guides, so formed that when any link of the chain ceases to roll on the balls, during its passage from one straight track to another, the balls shall be guided around the outside of the chain and under it again, without reversing or stopping their rotary motion, so that the balls will support the lower as well as the upper portion of the chain.

Claim.—Conducting independent rolls, or an independent chain of rolls, from the inside to the outside, and from the outside to the inside of the endless platform of horse-powers, so that the said rolls shall support both the upper and lower portions of the platform, substantially as explained.

No. 33,029.—GEORGE F. CASE, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated August 13, 1861.—This machine is designed for working button holes, and also for working along the edge of the cloth, to form a rib similar to that of a button hole, for the purpose of dispensing with the cord commonly used. A reference to the drawings and specification will be necessary for a proper understanding of its construction and operation.

Claim.—First, the semi-rotating feed *e* pressing against the under side of the cloth, close to the edge of the button hole, constructed and operated substantially as described and shown.

Second, the combination of the finger or looper *f*, the forked finger *g*, and the incline piece *l*, constructed and operated substantially as shown and for the purpose specified.

No. 33,030.—M. C. CRONK, of Auburn, N. Y.—*Improvement in Churns.*—Patent dated August 13, 1861.—Secured to the main dasher staff is a circular plate ridged upon its surface, and operating, in connexion with a similar plate placed just above it upon the frame D, to break up the globules of the milk, which is introduced between the plates by means of a funnel. On the bottom of the dasher staff is a coiled spring, which serves to keep the circular plates pressed together. On each side of the main dasher are two additional dashers, the wings of which are arranged to pass between the wings of the main dasher as they revolve in different directions.

Claim.—First, the employment of a spiral spring *m*, in combination with the main dasher staff *c* and circular plate *e*, when all shall be operated in the manner and for the purpose specified.

Second, the revolving dasher staffs *c d d*, frame B, funnel *a*, circular plate *e*, and spiral spring *m*, when all shall be arranged in the manner and for the purpose set forth and described.

No. 33,031.—R. P. P. DAGRON, of Paris, France.—*Improvement in Portable Microscopes.*—Patent dated August 13, 1861.—This invention relates to an arrangement of the parts of a miscroscope by which it is made of so small a volume as to be combined with rings, watch keys, or other articles of jewelry.

Claim.—As a new article of manufacture, the jewel microscope substantially as described, the same consisting of a portable microscope with one or two objects, and whether combined or not with articles of jewelry or other objects, and in which the object or objects form an integral part thereof.

No. 33,032.—T. G. EISWALD, of St. Louis, Mo.—*Improvement in Boots and Shoes.*—Patent dated August 13, 1861.—This invention consists of a metal of a form corresponding with the shoe sole, and provided with nails fitted around its edge of sufficient length to pass through the leather sole and the edges of the upper and welt of the shoe. The plate is fitted to the sole by placing a metal last within the shoe and applying a pressure, which causes the nails to be clinched inside.

Claim.—The particular arrangement shown and described of the clinching nails *a* and the plate A, with the sole *e*, upper *c*, and welt *d*, so that the above parts will be firmly united by the said clinching nails without any other fastening, all as set forth.

No. 33,033.—ADAM EXTON, of Trenton, N. J.—*Improvement in Rolling Pin and Docker for Biscuit.*—Patent dated August 13, 1861.—This roller is made concentric with the shaft,

and the docking points, pricks or nibs are so placed upon the surface of the roller as to prevent the biscuit or cracker from being blistered or torn up during the process of docking. The roller pin is provided with a stop for the purpose of checking the motion of the roller when it has moved the required distance over the board.

Claim.—The eccentric roller I J, in its connexion with the tail piece or stop K, and also the combination of roller I J and stop K with the docker, pricker, and stamper M, substantially as described and for the purposes set forth.

No. 33,034.—JOHANN L. FABER, of Stein, Bavaria.—*Improvement in Pencils.*—Patent dated August 13, 1861.—This pencil is formed with a hollow handle open only at one end to receive a long cylindrical lead. The open end of the handle is provided with a split tube which receives the lead freely, and is threaded at the rear end to receive a cap nut, the bore of which beyond the threaded portion is slightly tapering to compress the split end and make it gripe and hold the pencil.

Claim.—The pencil handle, with the bore adapted to receive and hold the cylindrical pencil, substantially as described, in combination with the split tube and screw clamping cap, substantially as and for the purpose specified.

No. 33,035.—JAMES FORREST, of Manchester, N. Y.—*Improved Cattle Guard for Railroads.*—Patent dated August 13, 1861.—Secured to the sills of the railroad are cast iron angle bars in which are journalled a series of cast iron bars. From each side of these bars extends a longitudinal wing or projection, so that as an animal places its foot upon the wings the bars will pinch the legs of the animal and cause him to retreat.

Claim.—The revolving, self-acting winged shafts placed in suitable bearings conjointly with the general structure, operating as and for the purposes set forth and described.

No. 33,036.—A. N. GRAY, of Cleveland, O.—*Improvement in Railroad Rail Coupling.*—Patent dated August 13, 1861.—This invention consists in an arrangement of a clamp coupler and key, by means of which, in connexion with a gib, both flanges of the rail are made to receive a vertical and a lateral pressure, the whole being locked by a self-fastening key which is bevelled on one side, but when driven in, the pressure is upon the parallel sides, which prevents it from working loose.

Claim.—The combination of the key L with a gib for clamp couplers for railroad rails, said key being self-fastening, substantially as set forth.

Second, the special combination and arrangement of the coupler B C, gib E, and key L, with the rails A A′, substantially in the manner and for the purposes described.

No. 33,037.—JAMES P. HILLARD, of Fall River, Mass.—*Improvement in Stop-Motion in Spinning Machinery.*—Patent dated August 13, 1861.—This invention consists in a method of stopping the operation of a railway drawing machine when the sliver breaks or in any way disappears, by the dropping of a lever and thereby acting on other devices which change the driving belt from the tight to the loose pulley.

Claim.—The combination of the cylinder C2, constructed and arranged so as to lie on the sliver, as shown, with the lever A2 B2 and its adjusting weight E, substantially as described.

No. 33,038.—R. E. HITCHCOCK, of Waterbury, Conn.—*Improvement in Picture Buttons.*—Patent dated August 13, 1861.—This invention consists in the construction of a button or medal made with two rims, one a little smaller than the other, so that cloth or velvet coverings can be turned over and secured by the rims, and pictures placed between them.

Claim.—A picture medal or button, constructed with cups *a′ a′*, or back B′ in lieu of one of the cups, eyes *c*, pictures *d*, and cloth or velvet covering *b*, and otherwise made, as shown and described.

No. 33,039.—KELLIS HORDE, of Philadelphia, Pa.—*Improved Hydraulic Engine.*—Patent dated August 13, 1861.—This invention consists in combining with an engine a hollow circumferentially perforated and open-ended cut-off, in such a manner that the pressure of the inflowing water at the two open ends of the tubular cut-off may be balanced, and thus lessen the friction and insure a regular and effective flow of water in and out of the cylinder of the engine. The cut-offs are kept in place by means of lever extensions and a slotted link which is held in place by a screw, which serves as a guide and also to adjust the cut-offs whenever wear renders adjustment necessary.

Claim.—First, the hollow cut-off valves D D′, open at both ends and perforated circumferentially and of taper form, in combination with an engine, operating and arranged substantially as and for the purpose set forth.

Second, the combination with the above of a link *c* which, while it is arranged to play up and down, is adjustable inward and outward by means of a screw *e*, or its equivalent, substantially as and for the purpose set forth.

No. 33,040.—CHASE B. HORTON, of Elmira, N. Y.—*Improvement in Buckwheat Hullers.*—Patent dated August 13, 1861.—This invention consists in the use of a stone concave placed in front of and extending partially under the cylinder, and fitted in an iron plate which is

held in position concentric with the cylinder by means of an adjusting screw. Above the cylinder is another concave consisting of a flexible corrugated steel plate held in position by springs pressing against its back and adjusted by screws. Over each end of the cylinder are fitted checks, which allow free rotation of the cylinder and at the same time prevent the escape and loss of grain.

Claim.—First, the construction and use of the stone concave X, in combination with its iron back plate W, as and for the purpose specified.

Second, the elastic and flexible concave U, with corrugated facing, constructed and arranged as and for the purpose specified.

Third, the combination of cylinder B with the checks *a*, in the manner and for the purpose specified.

No. 33,041.—CHARLES KAISER, of New York, N. Y.—*Improved Engine for Cutting Saw Teeth.*—Patent dated August 13, 1861.—The nature of this invention will be understood from the claim, the machine being more particularly designed for the manufacture of the small circular saws used in cutting the grooves in sewing-machine needles.

Claim.—The combination of the following members constituting a saw-cutting engine, viz., a mandrel to hold the saw plate, mechanism to turn the same intermittently to space the teeth, a chisel to cut the teeth, and mechanism to operate and control the chisel, the combination as a whole being and operating substantially as set forth.

Also, the combination of the above enumerated members in such manner that the cutting of one tooth of a saw removes the burr formed by cutting a preceding tooth, substantially as described.

Also, combining a chisel having a groove in its face with mechanism that holds the same and causes it to strike the saw blank at the required angle, substantially as set forth.

No. 33,042.—CHARLES KAISER, of New York, N. Y.—*Improved Machine for Grinding Needle Points.*—Patent dated August 13, 1861.—This invention consists in the combination of a rotary grindstone, a needle-holder having a rotary movement, and a needle-holder carriage having an oscillating movement, by means of which the needle is caused to turn on its axis in contact with the moving face of the grindstone, and at the same time to oscillate for the purpose of producing a convex point. Combined with the above is a mechanism for imparting a vibratory movement to the grindstone crosswise to its movement for grinding, so that a portion of the stone which is acting upon the needle point is continually changed. Combined with the tubular needle-holder is an elastic clamp, by means of which the needle is held in the needle-holder with sufficient rigidity to cause it to move therewith, and at the same time render its application and removal therefrom easy and rapid.

Claim.—A machine for grinding needles, consisting substantially of a combination of a grindstone, a revolving needle-holder, and an oscillating needle-holder carriage, the combination as a whole operating substantially as described.

Also, the combination of the first part of my invention with mechanism that imparts a vibratory movement to the grindstone crosswise to its movement for grinding, substantially as described.

Also, the combination of the needle-holder carriage with the remainder of the machine in such manner that the needle-holders can be raised from the grindstone and moved toward it, substantially as described.

Also, the combination of a tubular needle-holder with an elastic clamp, substantially as described.

No. 33,043.—E. F. KEELING, of Milton, O.—*Improved Harvester Cutter Grinder.*—Patent dated August 13, 1861.—Connected to the sides of the grindstone frame are slotted standards secured in any desired position by means of set screws, and at the head of the standards is placed a spring rest consisting of a head piece with two stems extending below surrounded by coiled springs which rest upon the standard and support the heads, by means of which the harvester may be readily adjusted to a proper position upon the stone for grinding.

Claim.—The special arrangement of one or more adjustable standards H and spring rest J, when combined and operating conjointly with the grindstone, substantially as described and for the purpose set forth.

No. 33,044.—G. W. LAWBAUGH and JOHN WILLIAMS, of Shanesville, O.—*Improvement in Cultivators.*—Patent dated August 13, 1861.—The novelty of this invention consists in the special arrangement of the parts named in the claim.

Claim.—The special arrangement of the side pieces A B, hinge D, arms C C′ and H I, and handles J K, and shovels P O, the whole being constructed and operating as and for the purpose set forth.

No. 33,045.—WILLIAM A. N. LONG, of Fisherville, N. H., assignor to J. B. RAND, of the same place.—*Improvement in Rocking Cradle.*—Patent dated August 13, 1861.—This invention relates to a child's cradle, to which an oscillating motion is given by means of clock work. The bottom of the cradle is composed of two pieces of equal width inclining towards the centre, so as to prevent the infant from rolling from side to side by the motion of the

cradle. To the underside of the cradle frame is secured one end of a spring, the other end being attached to a cord, which passes under a pulley, and is secured to the ratchet-wheel shaft.

Claim.—First, the employment of the spiral spring G, as and for the purpose set forth.

Second, the employment of a cradle whose bottom shall be inclined when said cradle shall be operated, substantially as and for the purpose set forth and described.

No. 33,046.—G. A. MEACHAM, of New York, N. Y.—*Improvement in Buttons.*—Patent dated August 13, 1861.—This invention consists in constructing a face button with a perforated metal eye, so that it can revolve upon the button, and so formed that it may be sewed to the garment.

Claim.—A face button having a perforated revolving metallic eye, constructed substantially in the manner described.

No. 33,047.—CARLTON NEWMAN, of Pittsburg, Pa.—*Improvement in Lamps.*—Patent dated August 13, 1861.—This invention is explained by the claim and engraving.

Claim.—The use in burners for coal or carbon oil lamps of a supply-tube for the oil, placed within the circumference of the burner frame and under the cone or cap, in combination with a burner frame having a chimney-holder hinged or pivoted to the burner frame, for the purpose of enabling the lamp to be replenished without either unscrewing the burner frame from its socket, or removing the glass chimney from the lamp, substantially as described.

No. 33,048.—JOHN PEARSON, jr., of Newburyport, Mass.—*Improvement in Stoves.*—Patent dated August 13, 1861.—The fire-chamber is constructed towards the top, and connects with the upper flue. The upper part of the fire-chamber is surrounded by an outer shell, which makes an air-chamber, and the air is discharged into the upper flue around the mouth of the fire-chamber, by which means the products of combustion become mingled with the highly heated atmospheric air to effect greater radiation.

Claim.—Arranging the air-chamber G G, formed as described, fire-chamber A, and upper flue B B, with reference to each other in such manner that the products of combustion shall be surrounded by a current of atmospheric air at the point of their discharge into the upper flue, substantially as described for the purposes specified.

No. 33,049.—WILLIAM PIERPOINT, of Salem, N. J.—*Improved Thresher and Cleaner of Grain.*—Patent dated August 13, 1861.—This invention consists in supporting the shaft and pulley of the elevator in a long box, so that the shaft has a bearing on the outside of the case only, for the purpose of preventing the elevator from clogging.

Claim.—In combination with an endless band elevator for grain, pulleys as herein described, having a long outside bearing for the shaft and no inner bearing for the shaft, as herein fully set forth.

No. 33,050.—MOSES POND, of Boston, Mass.—*Improved Cooking Range.*—Patent dated August 13, 1861.—This invention consists in a means for bringing all the heat of the oven in a broad flue beneath the front of the oven, whence it passes along the bottom and the sides of the oven. Commencing immediately behind the back plate of the fire-box is a continuous air passage or flue, which causes the air to pass in contact with the heated plates of the entire width of the oven, by means of which the waste heat from the flues is utilized.

Claim.—First, in combination with an elevated oven centrally placed over and above the fire-box and surrounded on five of its sides by flue passages, the broad vertical flue *f*, for carrying the products of combustion into these surrounding flues, when arranged as set forth for the purpose specified.

Second, in combination with the above-described flues *f g h*, the hot-air flue H I K L M, arranged substantially as set forth.

No. 33,051.—HENRY PORT, of New York, N. Y.—*Improvement in the Manufacture of Boots and Shoes.*—Patent dated August 13, 1861.—This invention consists in securing the shank and heel to the upper by means of staple rivets made flat and provided with V-shaped points, which pass through perforations in the welt-plate, and are made to clinch as they are driven by means of notches, curved alternately in opposite directions, in the metal facing of the last.

Claim.—First, making the shank and heel-piece with the heads of the rivets incorporated therein, and with the points of the rivets projecting above the inner surface thereof, for the purpose of securing it to upper leather.

Second, the use of the flat staple rivets, with V-points, for the purpose of securing the shank and heel-piece to the upper leather, substantially in the manner described.

Third, making notches in the metal face of the last in the manner described, for the purpose of giving direction to the clinch of the rivet, as set forth.

No. 33,052.—JACOB B. RAND and W. A. N. LONG, of Fisherville, N. H., assignor to J. B. RAND, of the same place.—*Improvement in Corn-Shellers.*—Patent dated August 13,

1861.—The rubbing wheel revolves within a circular shield or casing, and is provided with a series of slots for the purpose of separating and throwing out the dust and dirt from the grain. Hinged to the main box is the pressing-board, at the back of which is a spring which serves to press the ear of corn against the rubbing wheel.

Claim.—The rubbing wheel B, provided with the slots *b b*, in combination with the pressure-board G, and circular casing, or their equivalents, substantially as and for the purpose specified.

No. 33,053.—T. B. and R. N. ROCKWELL, of Batavia, Ill.—*Improvement in Seed-Planters.*—Patent dated August 13, 1861.—At each end of the frame are placed two hoppers, which adjoin each other, and between each pair of hoppers is placed a shaft having each attached to it a curved bar, which works freely through the bottoms of the hoppers. The ends of the bars are hollowed out to form cups. At the centre of the main frame is a drum placed in a hinged frame, and provided with a spiral groove in which is fitted a pin attached to a slide, the holes or seed-cells in which, convey the seed to the tooth-bars as they are dropped from the cups in the curved bars. By lowering the hinged frame the drum may be thrown out of gear and the slide rendered inoperative.

Claim.—The semicircular or curved bars L L attached to the shafts K K, and operated from the reciprocating slide H, in connexion with the hoppers I J, all arranged for joint operation substantially as and for the purpose set forth.

Also, placing the reciprocating, partially rotating drum F, provided with the spiral groove *a*, for operating the slide H, in an adjustable frame F′, for the purpose of rendering the slide H operative or inoperative, as may be desired.

No. 33,054.—GEORGE M. SELDEN, of Troy, N. Y.—*Improvement in Hydrants.*—Patent dated August 13, 1861.—This invention consists in placing within the base and top of the hydrant, independent valves projecting through and above the lower one of which, is a spindle. The upper valve is attached to a rod or spindle, which extends through the top of the hydrant. By pressing down the upper valve, the latter forces the lower valve open, when the water passes freely through, and by withdrawing the upper valve, the pressure of the water forces the lower valve against its seat and stops the flow of water.

Claim.—The combination of the independent valves H and I, with cross-piece *g*, removable screw valve-seat *e*, and sections A B, substantially as set forth.

No. 33,055.—LYMAN SMITH, of North East, Pa., and R. FRENCH, of Keokuk, Iowa.—*Improvement in Apparatus to form Soap into Balls.*—Patent dated August 13, 1861.—This invention consists in the attachment of a mould or series of moulds to the conducting pipe connected with an elevated cistern by means of a spigot and faucet, between which and the mould there is a stop-cock to shut the substance within the mould and retain the pressure therein after filling, and after its disconnexion with the pipe.

Claim.—The attachment of the mould-box E to the conducting pipe C, in connexion with an elevated cistern A, or other means of giving pressure to the liquid substance by means of a spigot and faucet *c j*, or equivalent joint, which permits the removal of the said box from the said pipe, and between which and the said box there is a stop-cock *k*, all substantially arranged as described.

No. 33,056.—SAMUEL G. TWAMBLY, of Saco, Me.—*Improvement in Chucks for Lathes.*—Patent dated August 13, 1861.—The object of this device is to hold the article to be turned exactly at the centre of rotation by means of a gripe and ring-clamp, and without preliminary or experimental adjustment, as in the usual method of embedding the outer end of the shaft or arbor in wax or cement while in a plastic state, and adjusting its position by a tedious manipulation.

Claim.—The open quadrangular chuck, constructed substantially as described, to enclose the work bounded by flexible arms or springs, which, by means of a gripe, or its equivalent, are so forced towards each other as to hold the work to be operated upon exactly at the centre of rotation.

Also, in combination with the above, the sliding centre pin *o*, that supports the rear end of the arbor.

No. 33,057.—JAMES L. VAUCLAIN, of Lafayette, Ind.—*Improvement in Locomotive Fire-Boxes.*—Patent dated August 13, 1861.—In the bottom of the water-jacket, which constitutes the floor of the fire-chamber, is a series of hollow stay-bolts, beneath which is a plate provided with corresponding apertures, and arranged so as to permit of a sliding movement by the engineer, to regulate the amount of draught required.

Claim.—The combination of the double fire-bottom C′ E, hollow stay-bolts F, water-jacket D, and register G *g*, perforated to correspond with the fire-bottom and sliding beneath the same, the whole being constructed and arranged and operating in the manner and for the purposes explained.

No. 33,058.—GEORGE W. WALKER, of Boston, Mass.—*Improved Ash-Pail.*—Patent dated August 13, 1861.—This invention consists of a covered pail having a spout to fit the

ash-door, and an opening through which the scraper can be inserted, the opening being of such a size that the dust occasioned by the drawing out of the ashes, and by its falling into the pail, is all drawn up the chimney and not thrown into the room.

Claim.—The described ash-pail with its cover F, spout E, and opening G, operating in the manner substantially as set forth for the purpose specified.

No. 33,059.—FERDINAND WOODWARD, of Sacramento City, Cal.—*Improvement in Bee-Hives.*—Patent dated August 13, 1861.—This invention consists in a construction and arrangement of parts for readily adjusting and removing the frames, and admitting of an inspection of the honey as it is formed. Near the bottom is provided an ingress and egress passage for the bees, in front of which is arranged a glass slide, confined in position by means of flexible clamps for the purpose of graduating the size of the passage.

Claim.—First, the arrangement for united use in a bee-hive of triangular mortises *e e*, triangular tenons *e' e'*, inverted V-shaped stops *f f*, and the rest or bearing knobs E E, in the manner and for the purposes described.

Second, the combination of the upper outer box G, inner boxes H H, having glass slides *m m*, the narrow movable frames I, and cleats *n n n*, having V-shaped notches for holding said frames, in the manner and for the purposes described.

Third, the arrangement of the glass valve B, of the ingress and egress passage B, and spring clamps *d d*, in the manner and for the purposes described.

No. 33,060.—JOHN ZEITLER and JOSEPH ZINTL, of Dayton, Ohio.—*Improved Meat-Cutter.*—Patent dated August 13, 1861.—This invention consists of a revolving meat-chopper block, over which is arranged a rocking frame, to which the knives are attached and provided with curved slots, into which are fitted pins secured to uprights on the frame, the pins serving as guides and supports to direct and hold the frame in its proper position. Secured to the upper rim of the meat-block are two springs connected to the frame by means of connecting rods and arms, which serve to feed the meat to the knives. The cutter-block is revolved by means of gearing, and at the same time an oscillating movement is imparted to the rocking frame and knives. The rocking frame is made adjustable vertically by means of the plates to which it is attached, being secured by set screws in slots in the uprights.

Claim.—First, the employment of the rocking frame D, provided with knives, constructed and used as and for the purpose set forth.

Second, the employment of the plates E E, which are adjustable upon the uprights C C, when constructed as set forth, and used in connexion with the rocking frame, as and for the purpose specified.

Third, the arrangement of the springs *a a* with the connecting rods *c c* and arms *d d*, upon the frame D, as and for the purpose set forth.

Fourth, the combination of the revolving table with the rocking frame, and its accompanying mechanism, substantially as and for the purpose set forth.

No. 33,061.—LEVI BRONSON, of Brockport, N. Y., assignor to Himself and JAMES BRAYLEY, of Buffalo, N. Y.—*Improvement in Raddles for Separating Grain from Straw.*—Patent dated August 13, 1861.—At about the centre of the frame of the straw-carrier, is placed a rock-shaft furnished at each of its ends, underneath the belts, with a cross-head. On the end of the shaft outside of the frame, is secured an arm having a longitudinal slot, in which is fitted an adjustable wrist-pin connected to the end of the pitman, thus giving a rocking motion to the shaft, which is adjusted by sliding the wrist-pin towards or from the centre of motion.

Claim.—In combination with an open raddle travelling around pulleys or rollers, an adjustable shake motion when composed of the rock-shaft I, with its slotted arm K, sliding wrist *i*, and raising and lowering arms J, arranged and operating substantially in the manner and for the purpose set forth.

No. 33,062.—WILLIAM BURNETT, of Boston, Mass., assignor to ROBERT BURNETT, of New York, N. Y.—*Improved Pressure Gauge.*—Patent dated August 13, 1861.—The nature of this invention will be understood from the claim.

Claim.—First, the mode described of admitting the pressure into the chamber behind the elastic plate, viz: by first introducing the pressure into the ring in front of the elastic plate, thence through the plate itself into a channel communicating with the pressure chamber, substantially in the manner and for the purpose specified.

Second, the use of a spiral shaft to give motion to a pointer, when the same is constructed by cutting away, spirally, one half of the material of the shaft, so as to present, approximately, in its transverse section, a semi-cylindrical body, substantially as described, by which a working face is secured equal to the whole diameter of the shaft, while sufficient stiffness is retained to present no obstacle to its manufacture, and to insure permanency of character.

Third, operating the spiral shaft giving motion to a pointer, by means of a vibrating bar, which is forced into proper contact with the spiral surface by a spring attached to the bar and operating transversely to the axis of the shaft, substantially as described.

Fourth, providing a guard to prevent the vibrating bar, which operates the spiral shaft, from receding so far from its proper contact with the spiral surface as to permit indications very materially differing from the true pressure, by placing an unyielding body near to the back of the vibrating arm, and parallel to the axis of the shaft, substantially as described.

Fifth, a screw or spiral shaft of diminishing pitch, to give motion to a pointer, substantially as described.

Lastly, forming the spiral surface of the shaft employed to give motion to the pointer with a reference to the point of suspension of a vibrating bar working in contact with said spiral surface, by which arrangement of the two is secured a proper working contact throughout the length of the shaft, and in all positions which are assumed by the vibrating bar, substantially in the manner and for the purpose specified.

No. 33,063.—D. P. FOSTER, of Shelburne Falls, Mass., assignor to Himself and S. L. HILL, of Florence, Mass.—*Improved Saw-Set.*—Patent dated August 13, 1861.—This invention consists in the employment of two jaws, provided with suitable handles, which cross each other, and are connected by a fulcrum pin, one of the jaws having a convex face, and the other being correspondingly concave, so that the teeth of the saw will be set in a curved form, and saws of different thicknesses set with one and the same implement.

Claim.—The two jaws B B′, one B being formed of a curve *b*, and a tangent *c*, with a concave face side *d*, and the other jaw B′ formed with a convex face corresponding inversely with the face *d* of jaw B, all being arranged substantially as shown to form a new and improved implement, for the purpose set forth.

No. 33,064.—L. D. HAWKINS, of San Francisco, Cal., assignor to ALFRED PEABODY, of Salem, Mass.—*Improved Machine for Scouring, Cleaning, and Smutting Rice, Coffee, and other Grains.*—Patent dated August 13, 1861.—This invention consists in the use of a drum or cylinder covered with strips of sheep skin with the wool on them for cleaning rice and other grains, and with strips of sheet iron, or its equivalent, for smutting wheat, revolving rapidly inside of a hollow cylinder composed of alternate perpendicular stone blocks and frames of wood or iron covered with wire cloth. The stone segments at their lower ends rest in shoes, which may be moved, by means of a set screw, to or from the cylinder to adjust their working surfaces to each other.

Claim.—First, the combination of the stones E E, and wire cloth-covered frames F F, whereby the pulverized skin and dirt from the surface of the grain is thrown out, leaving the stones free to act on the grain, and whereby the action of a cleaner and polisher is combined; thus in most cases doing away with the use of wire polishers as a supplementary process, and in all cases materially lightening the work to be done thereby.

Second, the adjustment of the wire polisher frames, to be moved up toward or drawn back from the revolving drum simultaneously with the stones.

Third, the use of the iron shoes or slides L M, upon which the stones and frames are placed, in combination with the cast-iron bed-plate A, and the screws *c f*, whereby the size of the hollow cylinder composed of the stones and frames may be increased or lessened, as desired.

No. 33,065.—SAMUEL F. HILTON, of Providence, R. I., assignor to Himself and W. D. HILTON, of Cranston, R. I.—*Improvement in Cement for Leather and other Substances.*—Patent dated August 13, 1861.—The materials used in making this cement are gelatine and tannin, dissolved—the one in water and the other in alcohol; the two solutions are then thrown together until precipitation takes place, when they are heated and stirred until cool.

Claim.—As an improved article of manufacture, a cement, as made by combining the two materials mentioned, in the manner and in the proportions substantially as set forth.

No. 33,066.—R. A. BLAIR and JOHN B. REED, of New Philadelphia, O.—*Improved Plough Clevis.*—Patent dated August 20, 1861.—The shanks of the clevis in this plough extend back and are secured by a bolt to the beam near the plough standard. On the front part of the beam is fitted a rectangular metal clasp, which is allowed to slide in a direction transversely with the beam. Through the sides of the clasp passes a screw rod, by turning which, the clasp is made to move the clevis one side or the other, and thus give to the plough "more or less land" as may be required.

Claim.—The employment or use, in combination with the clevis B, of the clasp E, and screw rod F; the whole being applied to beam A of the plough, substantially as and for the purpose set forth.

No. 33,067.—GEORGE W. BLAKE, of New York, N. Y.—*Improved Low-Water Detector for Steam Boilers.*—Patent dated August 20, 1861.—This invention consists in a novel arrangement of steam and water regulation pipes in connexion with each other and with a tube, the expansion of which causes the valve of the steam whistle to open, the tube being filled with water when the water in the boiler is up to the desired level, and with steam when the water is below that level. By means of two levers connected together by a link, a multiplied movement is obtained, so that the valve is depressed and opened by a very slight expansion of the expanding tube, and the steam is allowed to rush through the whistle.

Claim.—First, the combination of the steam pipe P, valve-box G, the opening *d*, and passage *e*, with the siphon tubes B N and I, substantially as and for the purpose described.

Second, the arrangement of the two levers M K, and their connexion *g*, in combination with the expanding tube, valve-box, and valve-stem, and with a fixed support F, substantially as and for the purpose specified.

No. 33,068.—THOMAS BOYD, of Boston, Mass.—*Improvement in Ventilating Tents.*—Patent dated August 20, 1861.—This invention consists in attaching to the centre pole of the tent, in such a manner as to permit of its being raised or lowered at pleasure, a cap or covering of a conical or any other desirable shape, which is made to cover an annular open space in the top of the tent around the pole, so as to exclude rain and permit free ventilation.

Claim.—A cap or covering so arranged as to be susceptible of motion in a vertical or up-and-down direction, and so operating that the tent can be ventilated in both stormy and pleasant weather, substantially as set forth.

No. 33,069.—JOHN H. BROWN, of England, G. B.—*Improvements in the Preparations of Gunpowder for Loading Ordnance and Fire-arms.*—Patent dated August 20, 1861.—Patented in England October 15, 1859.—The object of this invention is to prepare gunpowder in compressed cakes or charges to fit the various bores of cannon or fire-arms, so that the whole charge may be deposited in the piece without confining it in paper or other extraneous material.

Claim.—A charge for loading ordnance and fire-arms, as made by combining and pressing grains of gunpowder with an adhesive solution into a solid form, substantially in manner as set forth.

No. 33,070.—WILLIAM S. CARR, of New York, N. Y.—*Improved Water-Closet.*—Patent dated August 20, 1861.—This invention consists in the use of a movable dam formed of a sheet of elastic material, and connected with the basin in such a manner that when turned down, the contents of the basin will be carried to the soil pipe, and when turned up, the water will remain in the basin and stand at a level higher than the opening and effectually exclude any odor. To the bottom of the stand is pivoted a foot lever, which, upon pressure of the foot, causes the contents of the basin to run off and the water to be admitted.

Claim.—First, the receiver *b*, fitted with the cover *g*, and sustained upon legs *a a*, for the purposes and as set forth.

Second, the combination of the basin *c* and a dam *h*, fitted in such a manner as to be turned up to retain water in the basin for the purposes specified.

Third, the manner specified of forming the dam *h* of a sheet of elastic material clamped between the basin *c* and the receiver *b*, as specified.

Fourth, the arrangement of the shaft *i* and elevator *k*, in combination with the dam *h*, in the manner specified.

Fifth, the foot lever *m*, applied substantially as specified, to empty the contents of the basin *c*, and cause the flow of water for washing the basin, as set forth.

Sixth, the levers *l* and *m*, arranged in the manner specified, in combination with the crank *b* and valve *e*, for the purposes set forth.

No. 33,071.—WILLIAM G. CREAMER, of Brooklyn, N. Y.—*Improved Ventilator for Railroad Cars.*—Patent dated August 20, 1861.—In the side of the car, over the windows and near the roof, is provided an opening in which is pivoted a vertical deflector, which operates, by the motion of the car, to cause an outward draught from the inside of the car in whichever direction the cars may move.

Claim.—The construction of a tunnel-shaped opening within the walls of the car substantially as described, and the connexion therewith of a self-acting blind or deflector, operating substantially as described, and for the purpose mentioned.

No. 33,072.—H. N. DALTON, of Jacksonville, Cal.—*Improvement in Seeding Machines.*—Patent dated August 20, 1861.—The hounds of the draught-pole are pivoted to the sides of the main frame. The front transverse bar of the hounds is connected to the front end of the frame by a vertical adjusting screw which passes through a rocking nut, and is fastened at its lower end to the back edge of a bearing plate bolted to the bottom of a cross-bar of the hounds, so that by means of the screw the rear end of the frame may be depressed, and the ploughs adjusted to any depth or raised entirely from the ground.

Claim.—The hounds J J pivoted at *i i* to frame A, and mounted on the caster wheel N, in combination with the bearing plate *k*, adjusting screw K, and rocking nut *j*, all arranged in the manner and operating as described.

No. 33,073.—CHARLES H. DASCOMB, of Cleveland, O.—*Improved Cane and Seat Combined.*—Patent dated August 20, 1861.—This cane is formed of two sections, each section being divided longitudinally and connected together by pins, which form the joints. The canvas seat is attached to the ends of the four pieces of the cane-stock, and when these pieces are in the form of a cane, the canvas is folded up and a sleeve is passed over the lower end, and overlaps the ends of the upper and lower sections.

Claim.—The jointed sections A and E, the seat D, and sleeve C, when arranged and operating in the manner and for the purposes set forth.

No. 33,074.—ALBERT R. DAVIS, of Syracuse, N. Y.—*Improvement in Spoke Machines.*—Patent dated August 20, 1861.—This invention consists in the use of a series of carriages placed in an inclined bed, in connexion with rotary cutters which plane off the edges and sides of the spokes, and pressure rollers for keeping the stuff down in proper position on the carriages, and against the bearing strips or guides. As each carriage reaches the top of the frame, it drops down upon the lower guides, and descends by its own gravity to the bottom of the bed or frame, and, forcing outward a horizontal slide, passes upward on the upper guides.

Claim.—The series of carriages B, placed in an inclined bed or frame A, in connexion with the vertical and lateral pressure rollers F Q J, vertical slides E, weights G, horizontal bars H, rods I, vertical slides M, weights N, and rotary cutters S, arranged for joint operation as and for the purpose set forth.

Also, the slides H', when arranged and used in connexion with the parts above enumerated, as and for the purpose specified.

No. 33,075.—ELLIOTT DICKERMAN, of Middlefield, Conn.—*Improved Clothes-Dryer.*—Patent dated August 20, 1861.—Within a groove on one side of the supporting post is placed a piece of metal, having a projection upon which the lower sliding-hub rests, and an eye at the other end, to which is attached a cord that passes along the groove to a reel, by means of which, the arm of the frame may be raised or lowered, as desired. The post is supported by means of a series of arms and braces attached to hubs, so as to admit of being readily folded.

Claim.—First, the hook F, sliding in the groove *e*, and arranged to support the hub D upon its projection *f*, as herein set forth.

Second, the combination of the cylindrical-grooved post C, hub D, and reel H, as and for the purposes specified.

Third, providing a clothes-dryer with folding legs I I, arranged to be extended by depression, and closed by the elevation of the hub *i*, as set forth.

No. 33,076.—N. J. ELDRED, of Elkhorn, Wis.—*Improvement in Eaves Troughs.*—Patent dated August 20, 1861.—This invention consists in bracing the trough by means of cross-bars, which are bent up at their centres and attached at the bent portion, to a bar or strap secured to the roof of the building.

Claim.—First, the employment of the cross-bar C, constructed as represented, and secured to the trough, substantially as specified.

Second, the combination of said cross-bar C, as constructed, with the bar D, bolt *a'*, nut *c*, the several parts being arranged as and for the purposes specified.

No. 33,077.—HARRISON ELLIOTT, of Boston, Mass.—*Improved Flanged-blade Propeller.*—Patent dated August 20, 1861.—This invention consists in the adaptation to the propeller blade of a flange which projects perpendicularly from the outer edge of the blade, and is concentric with the axis of the propeller, the object being to prevent the loss of power resulting from the centrifugal action imparted to the water by the propeller.

Claim.—The flanged-blade propeller herein described, the form of the flanges being determined by a plane perpendicular to the axis of the propeller and passing through the rear corners of the blades, and a plane parallel to the axis of the propeller and passing through the advance corner of the blades, substantially as set forth.

No. 33,078.—GUSTAVUS FINKEN, of Brooklyn, N. Y.—*Improvement in Apparatus for Manufacturing Cube Sugar.*—Patent dated August 20, 1861.—This invention consists in the employment of a series of rising and falling pistons, operating in suitable cavities or moulds in a rotary disc and actuated by a stationary cam, in such a manner that the sugar introduced into the moulds is compressed at a certain point during the circuit of the disc, and lumps thus formed are forced out and deposited on a stationary platform.

Claim.—The combination, in the manner and for the purpose shown and described, of the rotary-wheeled spring piston *b*, with the disc A and cam F.

No. 33,079.—T. N. FISHER and J. H. ZINN, of Newport, Pa.—*Improvement in Stoves.*—Patent dated August 20, 1861.—This stove is designed more particularly for army use, and the invention consists in a method of construction which admits of its being readily set up or folded together and packed for facility of transportation.

Claim.—First, a stove in which the end and side plates are hinged to the bottom plate, so that the said plates may be folded for convenience in transportation.

Second, a stove in which the end and side plates are held together and fastened by means of a joint and lock, substantially like those described.

Third, the keys *e e*, when formed and applied and operating in a three-fold capacity, as set forth.

Fourth, a stove in which the top plate is wholly substituted by the cooking utensils, which

ntensils are so proportioned in respect of width and depth that one may contain the other or others and other adjuncts of the stove.

Fifth, a stove in which the gas-pipe is affixed to the gas exit, in the manner specified.

No. 33,080.—NELSON GABEL, of Gratis, O.—*Improvement in Churns.*—Patent dated August 20, 1861.—This invention consists in giving the dashers a reverse reciprocating motion by means of racks attached to slides, in connexion with a fixed pinion.

Claim.—The employment and arrangement of fixed pinion *a*, reciprocating racks *b b*, and slides *h h*, substantially as and for the purpose set forth.

No. 33,081.—EDWIN A. HALL, of Jacksonville, Ind.—*Improvement in Washing Machines.*—Patent dated August 20, 1861.—Within an annular trough-like box provided on its inner side with ribs are arranged two rubbers, consisting of a series of fingers attached rectangularly to a T-shaped stock, so that the fingers of one rubber intermesh with those of the other, by means of which the clothes are alternately compressed in two different directions.

Claim.—The arrangement of angular box A, ribs C, and alternate open rubbers G G′, the whole being combined and operating together, as set forth.

No. 33,082.—PETER J. HARDY, of New York, N. Y.—*Improved Camp Chair.*—Patent dated August 20, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination of the curved notched link *d* hinged to the seat, with the curved arm *e* hinged to the back, in the manner and for the purposes specified.

Second, the legs *f*, with the cross-piece *g*, in combination with the legs *h* and cross piece *i*, in the manner specified, whereby the seat is sustained by the pieces *g* and *i* coming in contact when the legs are in an X form, as set forth.

Third, the supporting frame *k*, attached by the cross-rod of the joint 7, and fitted to fold between the legs *h* and beneath the seat when the chair is folded as specified.

No. 33,083.—JOHN K. HARRIS, of Allensville, Ind.—*Improved Press for Pressing Hay, Cotton, &c.*—Patent dated August 20, 1861.—This invention relates to an improvement upon a press patented to S. Hewitt, December 30, 1843, and it consists in the employment of two screws with which the beater in Hewitt's press is so arranged as to perform the double function of a beater and follower.

Claim.—The follower and "beater" O, in connexion with the screws H H and hoisting rope M, or analogous devices, so arranged and applied as to admit of the follower and "beater" performing the filling or packing, and also the compressing operation, substantially as set forth.

Also, the means, substantially as shown and described, for operating or opening and closing automatically the feed door F, to wit: the cord *j*, connected to the lever *g*, which is attached to the rod *f* in the door, the curved arms *h i* and hooks *c c*, and the cord *j* passing over suitable pulleys *j′ j″*, and connected at its ends to levers *k* G, which are actuated respectively by the follower and beater O and pin *v* of wheel J.

Also, the pulley K, wheels J *n n*, and endless chain I, in combination with the slide L, catch *t*, stop U, and projection *bx* for operating the screw shafts H H and rope M, substantially as described.

Further, the guide-bars *s s* attached to the inner sides of the uprights B B, and fitted in notches or recesses in the inner sides of the nuts S S, to serve as guides for the latter, and also as guides to the bars Q Q of the follower, the ears *r r* of which are at each side of the bars *s s*.

No. 33,084.—HENRY HASSENPFLUG, of Huntington, Pa.—*Improvement in Lamps.*—Patent dated August 20, 1861.—On the inner surface of the cylindrically-formed reservoir of the lamp, is formed a female screw, which operates in connexion with a male screw formed on the wick-tube carrier, to force lard or other concrete fatty matter from the fountain into the wick-tube chamber. When whale oil is to be used in the lamp, the lower end of the wick-tube chamber is extended, and provided with a screw-cap, which forms a bottom for the chamber.

Claim.—A lamp, having the reservoir A, the wick-tube carrier D, and the wick-tube E, wick-tube chamber *d*, and the female screw-cap I, constructed and arranged in relation to each other so as to operate as specified.

No. 33,085.—C. HODGKINS, of Marlboro', N. H.—*Improvement in Sewing Machines.*—Patent dated August 20, 1861.—Around a flanged circular block, which is secured to the stand, is fitted, so as to rotate, a feed ring, to the interior of which are fitted two nearly semicircular arcs, connected together by a pin joint on one side of the ring, and on the opposite side one of the arcs has pivoted to it a small curved lever, on which is a cam which works against the face of the corresponding end of the arc. The lever is made to turn the ring for feeding the cloth by means of a cam on the looper shaft.

Claim.—First, the combination of the jointed arcs K L, fitted between the feed ring J and its supporting block M, the lever N and its cam *f*, and the screw *i*, the whole arranged substantially as described, in relation to each other and to the cam O on the feed shaft G, and operating as set forth.

Second, so arranging and applying the rotary looper, in combination with an eye-pointed needle for making the chain-stitch, that the point of the looper enters the loop of the needle-thread while below the axis of rotation of the looper, substantially as described, or, in other words, while on the opposite side of said axis to that on which the cloth is situated.

No. 33,086.—GUSTAVE A. HUWALD, of Knoxville, Tenn.—*Improvement in Apparatus for Defecating Sugar-Cane Juices with Sulphurous Acid Gas.*—Patent dated August 20, 1861.—This apparatus is composed of a juice-column, made in sections separated by horizontal perforated partitions, the perforations having small tubes passing through and extending a little below them, to permit the juice to drop down in small streams. Extending through the length of the juice-column is a vertical central pipe, which connects at the top with a sulphur-fume supply-pipe leading from a sulphur-burning retort or pan. The central pipe is reticulated to allow the fumes of sulphur to pass into the juice-column. In the upper horizontal part of the sulphur-fume pipe is a horizontal shaft, provided with a spiral flanch, for forcing the fumes of sulphur into the vertical pipe, and thence into the juice-column.

Claim.—First, in the treatment of sugar juices with sulphurous fumes, the introduction of the gases to the sugar juices through a sulphur-fume pipe F and a perforated vertical pipe E, which is enclosed by a vertical juice-column A, substantially in the manner and for the purposes set forth.

Second, the combination with the juice-column A and reticulated sulphur-fume pipe E of a suction and forcing device and sulphur-burning retort or pan G, substantially as and for the purposes set forth.

Third, in apparatus for treating sugar juices with sulphurous fumes, making column A in sections *a a1 a2 a3*, with partitions *b b b b*, which are perforated or have tubes *c c c* extending down through them and below their surface, in combination with perforations in the pipe E, which are located some distance above the surface of the partition, substantially as and for the purposes set forth.

No. 33,087.—E. L. JONES and M. E. CARTER, of St. Louis, Mo.—*Improvement in Dovetailing Machines.*—Patent dated August 20, 1861.—The novelty of this invention consists in the arrangement of the devices for performing the various operations of mitring, mortising, and tenon-cutting; the separate devices being disclaimed.

Claim.—The combined arrangement of the mitring, mortising, and tenon-cutting devices in the machine, substantially in the manner and for the purpose specified.

No. 33,088.—SYLVANUS D. JONES, of North Dighton, Mass.—*Improved Washing Machine.*—Patent dated August 20, 1861.—Within a cylindrical vessel is arranged a dasher, attached to a vertical shaft, which latter also carries a circular disc placed over the vessel. At the side of the vessel is a shaft, upon which is arranged a disc and an arm, which serves as a cam, and operates with the disc to raise and turn the circular horizontal disc with the shaft and dasher through an arc of a circle, and afterwards permit them to drop down again, whereby two different actions are given to the dasher. The vertical disc is made adjustable to or from the arm or cam, when desirable.

Claim.—A washing machine, having its reservoir A, its dasher F, its shaft D, its disc E, its cranked arm *m*, constructed and arranged in relation to each other and so as to operate as specified.

Also, the employment of the adjustable disc I in combination with the vessel A, the dasher F, the shaft D, the disc E, and so as to operate in the manner set forth.

No. 33,089.—WM. F. KETCHUM, of Buffalo, N. Y.—*Improved Hand Grenade.*—Patent dated August 20, 1861.—The grenade, which is of an elongated form and expanding at the centre, is cast with an opening at each end, into one of which is fitted a tube of some soft metal provided with a flange at the outer end, and at the inner end with a nipple for holding a percussion cap. The charge is then placed in the shell, and when the same is to be used, a stick provided with four wings of pasteboard to act as a guide, is inserted in the other end. Fitted within the tube is a plunger which is made to explode the cap on the inside at the moment the outer end of the tube strikes any resisting object.

Claim.—The combination of the tubing and concealed cap therein, with the adjustable plunger and adjustable winged guide, arranged for a hand grenade, substantially and for the purposes described.

No. 33,090.—MARCUS LANE, of Washington, D. C.—*Improvement in Treating Metals.*—Patent dated August 20, 1861.—This invention consists in arranging the gutter or induction pipe that leads from the furnace, tangentially to the semi-spherically formed chamber, so that the metal shall have a circular motion imparted to it at the moment it enters the chamber. The invention also consists in supplying carbon with the air at a point below the surface of the molten mass of metal, by means of blast-pipes set tangentially, and valved chambers or vessels, said vessels containing and supplying the carbon, and the said pipes conducting it into the molten metal, and the blast of air through the pipes forcing it throughout the same.

Claim.—First, imparting a partially circular motion to the molten metal by means of the

semi-spherical form of the chamber B, and the tangentially-arranged pipe or gutter C, substantially as and for the purposes set forth.

Second, continuing the circular motion in the metal by combining the semi-spherical form of the chamber B, tangentially-set gutter C, and tangential blow-pipes E E, substantially in the manner described.

Third, supplying carbon with the air at a point below the surface of the metal, to a circulating mass of metal, by means substantially such as described, for the purpose set forth.

No. 33,091.—D. CLINTON LAWRENCE, of Cedar Falls, Iowa.—*Combined Penholder and Letter-Weighing Apparatus.*—Patent dated August 20, 1861.—This invention consists in combining with a penholder case, or other instrument for writing a letter, a coiled spring and rod secured within the upper end of the case, and so arranged and applied as to indicate the weight of a letter, in relation to the rate of postage.

Claim.—A combined writing instrument and weighing apparatus, constructed and operating substantially as described.

No. 33,092.—HENRY LOWE, of Baltimore, Md.—*Improvement in the Manufacture of Paper.*—Patent dated August 20, 1861.—This invention consists in reducing the fibrous matter of many different paper-making materials having a very short fibre, to a much greater subdivision than has usually been considered proper or useful for the manufacture of paper.

Claim.—The described paper stock or pulp, having a short fibre, as a new article of manufacture, the same being made from killed or spoiled stock, or from vegetable substances having naturally a very short fibre, substantially as set forth.

No. 33,093.—PERRY MARCY, of Tunkhannock, Pa.—*Improvement in Potato-Diggers.*—Patent dated August 20, 1861.—At one side of the frame is attached a lever, to the under side of which is secured a spring. The end of this spring is connected to the outer end of an arm of the rod which, with its arms or teeth, forms the screen. By raising this lever the spring is tightened with reference to the screen.

Claim.—The arrangement of the lever *e*, spring *i*, and connecting rod *f*, with the screen, operating as set forth, the several parts being used as and for the purpose specified.

No. 33,094.—CHARLES MCBURNEY, of Roxbury, Mass.—*Improvement in Utilizing Waste Vulcanized Rubber.*—Patent dated August 20, 1861.—The object of this invention is to restore to the waste rubber those properties of which it was divested by the process of vulcanization, to which it has already been subjected, by adding to the waste rubber, after it has been suitably comminuted, a portion of oil, such as pine or rosin oil, castor oil, &c., which restores to it those properties and that capacity of being again vulcanized which it possessed in a crude state.

Claim.—The use of the oils mentioned, in combination with waste vulcanized India-rubber and crude gum or rubber, as set forth, for the purpose specified.

No. 33,095.—BENJAMIN F. MOORE, of Detroit, Mich.—*Improvement in Hydrants.*—Patent dated August 20, 1861.—Upon a metal pipe is bolted a cap or cover with a valve-seat attached thereto. Upon this cap is a bracket in the form of a tripod, in the upper end of which is placed a nut, through which a screw on the lower end of the valve-rod passes. The valve-rod is connected to the valve-stem by means of a thimble made in two halves, and held in position for use by a metal band. When necessary to take the apparatus apart, the band is slipped up from the thimble, and being in two parts is easily removed and the cap taken off.

Claim.—The combination of the cap B, with valve-seat attached, bracket *f*, nut *g*, thimble *h*, and band *i*, for the purposes set forth.

No. 33,096.—CHARLES O'BRYAN and HENRY KREPS, of Minerva, Ohio.—*Improvement in Ploughs.*—Patent dated August 20, 1861.—The beam of the plough is made of wrought iron, and has at its inner end a bow or yoke, one end of which is longer than the other. Pivoted to the ends of the arms of the yoke are two handles, which are connected below the yoke with braces or bars attached at their forward ends to the beam. By means of holes and bolts, the rear ends of these bars may be adjusted upon the handles, so as to cause the shares to penetrate more or less deeply into the ground.

Claim.—The combination of the beam A, provided with the yoke B, and the handles C C, with shares D attached, and the braces E E, arranged as and for the purpose set forth.

No. 33,097.—A. M. OLDS, of Glenmont, Wis.—*Improved Bag Holder.*—Patent dated August 20, 1861.—This invention consists of a device for holding bags in a proper position with their mouths distended, for the purpose of being readily filled.

Claim.—The slide C, placed on the hollow post A, and provided with the sliding pieces E E, and stationary board *e*, rotary spurs *f* and *g*, and pawl J; the side pieces E E having arms D D attached, and a weight I, and connected to a slide G by a cord F, all arranged to operate as and for the purpose set forth.

No. 33,098.—NATHANIEL PARKS, of Rome, N. Y.—*Improved Methods of Communicating by means of Electric Telegraph.*—Patent dated August 20, 1861.—The inventor says: "My plan has for its object the overcoming of some, if not all, the causes that prevent the obtaining of an effective working current at the extremity of an extended submarine or subterranean conductor, especially if at any point of that conductor defective or imperfect insulation exists." Reference must be had to the specification and drawings for a description of the invention.

Claim.—The system of operating non-insulated or imperfectly insulated cable or metallic conductors, by such arrangement or modification of the receiving instrument as will provide for the results indicated in the preceding specification.

No. 33,099.—ROBERT P. PARROTT, of Cold Spring, N. Y.—*Improvement in Projectiles for Rifled Ordnance.*—Patent dated August 20, 1861.—This invention consists in fitting the rear portion of an elongated projectile for rifled ordnance with a packing ring of brass or other soft metal, to be upset and expanded laterally, and so driven into the grooves of the gun by the force of the explosion of the charge.

Claim.—The soft metal ring B, cast in a groove O, in the body of the projectile, and upon a taper portion *d*, extending from the said groove to the base, and upon ribs or feathers *f f*, or their equivalents, formed upon the body, and having its rear edge *i* exposed flush or thereabouts with the base of the body, all substantially as described.

No. 33,100.—ROBERT P. PARROTT, of Cold Spring, N. Y.—*Improvement in Projectiles for Rifled Ordnance.*—Patent dated August 20, 1861.—This invention is designed as an improvement upon the projectile patented to J. B. Read, October 28, 1856, and it consists in making the wrought-iron cup, which is attached to the rear of the projectile, of greater thickness, and, to insure its proper entrance into the grooves, the said cup is swaged or otherwise formed before the insertion of the projectile in the gun, so that in loading it, it will enter into the grooves in such a manner as not to interfere with the free loading of the gun, and be caused to fit the grooves and lands by the force of the explosion of the powder, without danger of its being broken.

Claim.—The formation of such wrought-iron cup before the insertion of the projectile into the gun, with projections *a a* to enter into the rifle grooves, substantially as described.

No. 33,101.—ROBERT PATON, of New York, N. Y.—*Improved School Seat.*—Patent dated August 20, 1861.—This invention relates to an improvement in folding seats, and it consists in so constructing the same as to offer as little obstruction as possible in the sweeping and cleansing of the room, with a less amount of stock than usually required.

Claim.—A folding seat D, attached by joints *d* to the side frames A, which joints are at the back parts of supports *c*, as shown, whereby the seat is supported directly underneath it and in front of the joints *d*.

No. 33,102.—WILLIAM P. PATTON, of Harrisburg, Pa.—*Improvement in Lamps.*—Patent dated August 20, 1861.—The chimney support is placed over the air chamber, and when the lamp is to be lighted the jacket is raised, guide-pins being made to fit in slots, by means of which the jacket is retained in connexion with the air chamber, and the wick is exposed through apertures in the jacket. Fitted upon the upper portion of the oil chamber is a "petticoat" lined on its inner side with a gutta-percha or leather gasket, and provided with apertures to correspond with an aperture in the oil chamber, through which oil is poured into the chamber. The aperture is closed by turning the petticoat.

Claim.—First, the employment of the adjustable and movable chimney support B, when it is constructed and arranged in the manner specified.

Second, the combination of the support B, as constructed, with the air chamber C, the two being arranged and used in the manner set forth.

Third, the construction and application of the petticoat E, or its equivalent, substantially in the manner and for the purpose set forth and described.

No. 33,103.—JOSEPH F. POND, of Cleveland, O.—*Improvement in Seed-Planters.*—Patent dated August 20, 1861.—This invention consists in the construction of a dropping tube, to which adjustable or reversible arms are attached; also, a bent bar, with stationary and reversible arms, upon which are discs or wheels placed obliquely to the line of draught, having cone-shaped bearings for equalizing the side draught and preventing friction on the axle, the cone being secured to the arm by a pin, and may be adjusted by shifting it to vary the width of the discs.

Claim.—First, the two serrated or plain discs W W, oblique to the line of motion, upon stationary adjustable and reversible arms *a a*, attached directly to the dropping tube T, and the stationary and adjustable arms attached to a piece P P, for the purpose of covering grain, cultivating and hoeing vegetables in different manners, as set forth.

Second, the application of the cone bearings B, and cap *d* and pin *i* in the hub H and disc W, when placed or running obliquely to the line of motion, when applied to seed-planters, cultivating and hoeing machines, for the purpose of equalizing the side draught to

obviate friction and secure a more easy action of the machine or implement, as specified, for the purposes set forth.

No. 33,104.—JAMES RAHILL, of Ramsgate, England.—*Improvements in Artificial Horizons for Quadrants.*—Patent dated August 20, 1861.—Patented in England July 30, 1860.—This invention consists in the employment of a pendulum connected to a horizontal bar, to the end of which is attached two thin bars standing at right angles to the pendulum, the said two bars or arms, when properly adjusted to the true horizontal plane, forming a true and reliable horizon for measuring altitudes or angles. The said arms or bars may be readily adjusted with the true horizon, from time to time, by means of a movable weight attached to the pendulum.

Claim.—The arrangement and adaptation to instruments of the above description, of a pendulum having one or more horizontal bars or arms, and capable of adjustment with the true horizon and the centre of the horizon glass and eye piece, such bars or arms forming an artificial horizon, which may be relied upon for taking observations when the true horizon is obscured.

No. 33,105.—STEPHEN H. RUSSELL, of Boston, Mass.—*Improved Canteen Filler.*—Patent dated August 20, 1861.—The object of this invention is to enable a person not only to drink from, but to fill his canteen where the water is shallow. Attached to the drinking tube, at or near the middle of its length, is a short metal tube divided by a partition and surrounded by a disc of rubber, which, when placed on the mouth of the vessel to be filled, and pressed tightly to exclude the air, will fill the vessel by exhausting the air from it, through the mouth-piece of the tube.

Claim.—The described canteen filler, consisting of the tube A and short tube C, with its partition *e*, forming the passages 3 and 4, substantially as specified.

No. 33,106.—S. M. SHERMAN, of Fort Dodge, Iowa.—*Improvement in the Construction of Splint Baskets.*—Patent dated August 20, 1861.—To the outer side of the lower part of the curved staves are secured metal plates, which are split at their upper ends, one part being bent so as to loop over a wire or rod on the outer side, while the other part passes through the staves, and is clinched within the basket. A hoop is also secured to the inner side of the staves by metal loops.

Claim.—The employment or use of the plates C applied to the outer sides of the staves B, in connexion with the rods or hoops D E, one or more pairs, applied to the staves and secured thereto, substantially as and for the purpose set forth.

No. 33,107.—JOHN J. SMITH, of Elizabeth, N. J.—*Improved Method of Operating Dampers in Steam-Heating Apparatus.*—Patent dated August 20, 1861.—This invention consists in effecting an automatic operation of the damper in the cold air supply pipe, through the medium of the expansion and contraction of a portion of a tube connected directly to the radiator itself.

Claim.—Governing the supply of cold air admitted to the steam-heating surfaces by the temperature of the said steam-heating surfaces, substantially in the manner and for the purposes described.

No. 33,108.—L. M. SPEER, of Belle Vernon, Pa.—*Improvement in Machines for Washing Sand.*—Patent dated August 20, 1861.—This invention consists of a series of inclined screw elevators arranged in boxes, which latter are connected by diagonal sluices leading from one box to the other. Over the front end of the first series of boxes is arranged a hopper, into which the sand is fed and subjected to the action of a stream of water. By means of the elevating screws and sluices, the sand is passed from one box to the other, to the end of the series, and thus thoroughly cleansed.

Claim.—The combination of inclined screw elevators B and sluices G with the boxes A, arranged and operating in the manner substantially as described, for the purpose of giving the sand a continuously undulating motion while subjected to the action of the current of water, as set forth.

No. 33,109.—P. H. STANDISH, of Santa Clara, Cal.—*Improvement in Threshing Machines.*—Patent dated August 20, 1861.—This invention consists in the employment of two or more rows or series of teeth of different thicknesses, placed on an adjustable polygonal drum, the latter being so arranged that any of the series or rows of teeth may be adjusted in a proper relative position with the threshing cylinder, so as to operate on different kinds of grain.

Claim.—The employment or use, in combination with the threshing cylinder B, of an adjustable drum formed of a series of toothed concaves attached to or connected with a common shaft, substantially as shown, to admit of any one of a series or number of toothed concaves, having teeth of different thicknesses, being used with the threshing cylinder, as circumstances may require.

No. 33,110.—ROBERT S. STUBBS, of Claremont, N. H.—*Improved Apparatus for Working Ships' Boats.*—Patent dated August 20, 1861.—This invention consists in a method of attaching, lowering, and detaching boats from vessels. Reference to the engraving and specification will be necessary for an understanding of the operation and construction of the apparatus.

Claim.—First, the means specified for attaching or detaching the boat and fall, consisting of the blocking piece I, in combination with the rock-shaft 4 and rod H, fitted and acting substantially as specified.

Second, the double winch M. formed with wavy or zigzag grooves, and arranged in the manner specified, to act upon the ropes or chains of the falls to the boat, as set forth.

Third, the arrangement of the wheel *o*, friction band *o'*, lever L, pawl L', and wheel 11, to control the raising or lowering of the boat, in the manner set forth.

No. 33,111.—CHARLES TECKELNBURG, of Philadelphia. Pa.—*Improvement in Loaf-Sugar Cutting Machines.*—Patent dated August 20, 1861.—The object of this invention is the division of loaf sugar into small uniform blocks, for family use, which is effected by means of an arrangement of four sawing cylinders operating together in connexion with a feed trough, so that the discs of sugar, in passing between the said cylinders, shall be grooved on each side in such a manner that they will become perfectly divided or broken apart into small uniform blocks on falling into the receiving box below.

Claim.—Providing the cylinder A A and B B with the saws *e e* and *g g*, respectively, as described, the said cylinders being arranged to operate together in combination with the feed trough C, substantially as described and for the purpose specified.

No. 33,112.—LOUIS TILLIERS, of New York, N. Y.—*Improved Motive Power.*—Patent dated August 20, 1861.—This invention consists of an apparatus in which it is designed to combine the power of the lever with that of gravitation, for the purpose of producing a permanent active force to be applied as a motor to various machines.

Claim.—The use or employment of the levers A, weighted levers B, shaft S S, in combination with the connexions described, when the same shall be arranged and operated as described and for the purpose specified.

No. 33,113.—SOLOMON and NICHOLAS VAN DYK, of St. Louis, Mo.—*Improvement in Coffee Roasters.*—Patent dated August 20, 1861.—This invention consists in constructing the cylinder with double heads, between which the heat from the fire is admitted, and in connecting them by oval flues placed in an angular position with reference to each other in such a manner that, as the cylinder revolves, the coffee is first passed towards one end of the cylinder, and then carried by another flue towards the other end of the cylinder.

Claim.—The construction of a cylindrical coffee roaster, with internal flues placed angularly to the centre of the cylinder and with each other, substantially in the manner described and for the purpose specified.

No. 33,114.—JAMES L. VAUCLAIN, of Lafayette, Ind.—*Improvement in Locomotive Smoke Stacks.*—Patent dated August 20, 1861.—At the lower part of the exit flue, and constituting a portion thereof, is an adjustable throat, which may be raised or lowered by means of a rack and pinion under the control of the engineer, so as to modify the draught without interfering with the discharge of steam. Below the throat is a perforated cylindrical box or screen, the apertures consisting of longitudinal slots, which can be closed to any desired extent by means of a correspondingly perforated cylindrical register, operated by a rack and pinion under control of the engineer, by which he is enabled to graduate the screen so as to prevent the escape of sparks.

Claim.—First, the arrangement of a shifting throat E, in combination with the exhaust steam and smoke passages, substantially as and for the purposes set forth.

Second, providing the smoke passage of a locomotive with a screen I, having apertures K closable by a register L, under control of the engineer, as and for the purpose set forth.

No. 33,115.—JOHN WALCH, of New York, N. Y.—*Improved Sink.*—Patent dated August 20, 1861.—This invention consists in combining in one piece with a sink an open channel on the side for the overflow, and an open channel in connexion with the side channel at the bottom of the sink, said lower channel being provided with a division which constitutes the water trap. At the end of the water trap is cast a branch to which the waste pipe is attached.

Claim.—The arrangement and combination with a sink A of the channel B on the side, and the channel D at the bottom of said sink, both channels communicating with each other and provided with a pipe or projection E at the extreme end of the channel D, said channels B and D and pipe E being covered by a partly perforated and removable cover G, constructed as described, and forming thereby a bottom and side escape for the water, as set forth.

No. 33,116.—JOHN WARNER and JACOB H. VOSBURGH, of Galesburg, Mich.—*Improvement in Machines for Extracting Stumps.*—Patent dated August 20, 1861.—The chain which is attached to the stump to be extracted is secured to an axle upon which is a drum which carries a chain secured to a second axle in the rear of the first. Upon this second axle is also

placed a drum to which is secured a rope by which the power is applied to the rear drum. At the rear of the main frame, is a vertical frame provided with wheels, so arranged as to bear the weight of the rear of the machine when necessary.

Claim.—First, the arrangement of the chains I I, axles E D, pulleys or drums G F, chain H, and cord K, upon and in connexion with the frame A, as and for the purpose set forth.

Second, in combination with the subject of the first claim, the employment of the vertical frame L, when used as and for the purpose set forth.

No. 33,117.—JOHN B. WARING, of South Manchester, Conn.—*Improved Machine for Sizing Silk or Other Threads.*—Patent dated August 20, 1861.—This invention, the nature of which will be understood from the claim, does not admit of a brief intelligible description.

Claim.—First, varying the inclination of a lever C by means of slight differences in tension due to variations in the size of a thread running between freely rotating wheels D D′, mounted on such lever, without a rubbing friction of the thread against either of such surfaces; and in combination therewith and by means of such changes so produced in the inclination of C, increasing and diminishing the distance between the axes of D D′, the whole operating together substantially as set forth, for the purpose of actuating mechanism which shall induce the shifting of the thread from one bobbin or receiver to another without subjecting the thread to any considerable strain.

Second, the construction and arrangement of continuously revolving thread-griping wheels D D′, levers C and E, joint *c*, and surfaces F G, for the purpose set forth.

Third, the adjustable cam F, or its equivalent, arranged relatively to the lever E and surface G, or their equivalents, substantially as described.

No. 33,118.—GEORGE WHITFORD, of Providence, R. I.—*Improved Washboard.*—Patent dated August 20, 1861.—This invention consists in placing within a wooden frame a plate of vulcanized rubber or gutta-percha, the surface of which is ribbed and provided with upright bars or stays, which strengthen the ribs that are arranged diagonally from the sides and intersected by the bars.

Claim.—As a new article of manufacture, a washboard (or rubber for washing machines) composed of vulcanized caoutchouc, gutta-percha, or other gums, with bars and ribs, constructed and arranged substantially as described for the purposes specified.

No. 33,119.—JOHN R. WHITTEMORE, of Chicopee Falls, Mass.—*Improvement in Feed Cutters.*—Patent dated August 20, 1861.—This invention consists in the use of a common hide roll and cylinder of knives, in combination with a compressible mouth to the hopper, the bottom board being hinged at one end and acted upon by a spring and block pressing it upwards.

Claim.—The compressible mouth of the hopper, in combination with the hide roll A, or its equivalent, and the cylinder of knives B, substantially as and for the purpose specified.

No. 33,120.—JOHN WOODY, of Mount Vernon, Ind.—*Improvement in Harvesters.*—Patent dated August 20, 1861.—This invention consists of an arrangement of devices by means of which, the driver may from his seat readily raise the finger-bar and sickle over any obstructions, by simply pressing his foot against the upper end of a lever and bearing back on the seat. The finger-bar and sickle may be retained at any desired height by passing a pin through a guide in any of a series of holes in a suitably located bar.

Claim.—The lever *k*, attached to the draught-pole B by the bar *l* and the bar C, which supports the driver's seat D, and is attached to the draught-pole B by the link *p*, in combination with the guide *u*, attached to one side of the seat support *q*, the perforated bar *v*, attached to the support *g*, and fitted in the guide *u*, all being arranged as and for the purpose specified.

No. 33,121.—JOHN O. BLYTHE, of Germantown, Pa., assignor to Himself and JOSEPH W. JONES.—*Improvement in Ventilating Hats and Caps.*—Patent dated August 20, 1861.—The cap or hat is made in two sections, connected together by means of a hinged joint in such a manner that the upper part may be raised from the lower and an opening made for ventilation.

Claim.—A ventilating or extension cap or hat formed by the combination and arrangement of the parts *a b d* and E, substantially as described.

No. 33,122.—HENRY F. COX, of Jersey City, N. J., and ALEXANDER MILLER, of New York, N, Y., assignors to HENRY F. COX, of Jersey City, N. J.—*Improvement in Machinery for Cutting Corks.*—Patent dated August 20, 1861.—This invention relates to that class of cork-cutting machines by which a number of corks may be cut at one and the same time out of a slab or sheet of the cork wood. The nature of the improvements will be understood from the claim.

Claim.—So combining the fixed clamps with the spindles and cutters revolving around them that the latter can be both revolved and raised and lowered, without imparting motion to the clamps, substantially in the manner and for the purposes set forth.

Also, the cutters so formed as to make, in the first instance, two annular and concentric

incisions, and then grub out the cork wood left detached by said cutters, substantially in the manner set forth.

Also, the arrangement, as described, of the adjustable levers and links, and their combination with the spindle frame and the driving cams, for the purpose of producing the different degrees of travel required of the spindle frame for cutting corks of the various lengths, and of enabling the said frame to be always started from a given point, as set forth.

No. 33,123.—HAMPTON W. EVANS, of Philadelphia, Pa., assignor to Himself and C. C. JENKINS, of the same place.—*Improvement in Equalizing the Action of Springs in Governors.*—Patent dated August 20, 1861.—This invention consists in combining a spring with a governor, spindle, and rods, so arranged as to form a knee joint, so that the force applied to overcome the rigidity of the spring may be transmitted through a leverage constantly increasing as the resistance of the spring increases, thereby equalizing the action of said spring.

Claim.—Combining a spring with the governor spindle A and rods F and F′, so arranged as to form a knee joint, substantially as and for the purpose set forth.

No. 33,124.—WILLIAM A. MAURAN, of Boston, Mass., assignor to CHASE BROTHER & CO., of same place.—*Improved Camp Bedstead.*—Patent dated August 20, 1861.—The nature and object of this invention will be understood from the claim and engraving.

Claim.—First, the piece F, with its projections *x*, in combination with the hasp H, operating with the pawls G, substantially as described, whereby the head and foot extensions are adjustable and fixed in any desirable position, and whereby those appliances fasten the legs.

Second, the folding legs L L, in combination with the supporting brace or spring M, substantially as described, whereby the sagging of the middle of the bed is prevented.

Third, the folding and bent rods I and J, substantially as described, whereby the frame supporting the net-work or curtains may be folded in their application to bedsteads, substantially as described.

No. 33,125.—EDWIN H. PERRY, of Providence, R. I., assignor to SACKETT, DAVIS & CO., of the same place.—*Machine for Making Split Rings.*—Patent dated August 20, 1861.—This invention consists of a machine which embraces in its organization all the operations necessary to convert any length of wire into finished rings without the intervention of manual labor.

Claim.—First, the mode of operation, substantially as specified, by means of which a wire of indefinite length is wound in successive coils of two or more convolutions, and each coil cut from the wire as fast as it is formed, as set forth.

Second, the mode of operation, substantially as specified, by means of which each coil is successively conveyed to the point where it is swaged into a ring and then conveyed to the point where it is discharged from the machine.

Third, in combination with the carrier K, or its equivalent for transporting the coil, the employment of the punches L and N, or their equivalents, substantially as described for the purposes specified.

Fourth, in combination with a spindle, or its equivalent for winding the coils, the employment of a clamp or its equivalent, substantially as described, for holding the wire against the spindle while it is being wound in the manner and on the principle substantially as set forth.

Fifth, the mode of operation, substantially as described, by means of which the end of the wire, after a coil has been cut off, is prevented from bearing against the winding spindle while it is discharging the coil, as set forth.

No. 33,126.—MONROE STANNARD, of New Britain, Conn., assignor to PRATT, WHITNEY & CO., of Hartford, Conn.—*Improvement in Pumps.*—Patent dated August 20, 1861.—This invention consists in providing passages for the admission of the fluid to the abutment chambers behind the end of the abutments. The said passages lead from the channel in which the fluid moves to the lower part of the chambers in the drum, so that there shall always be the same pressure behind the end of the abutment as there is in that part of the channel in which the above-mentioned passage opens. Passing down through holes in the abutments are gauge screws which screw into the metal forming the bottom of the chambers in the drum, the enlarged heads of these screws forming checks to prevent the abutments from being forced out only just so far as to prevent leakage of the fluid past their ends.

Claim.—The employment of the passages *m* leading into the abutment chambers, substantially as and for the purpose specified.

Also, the employment of adjustable gauges to limit the distance to which the pistons may be protruded, substantially in the manner and for the purpose set forth.

No. 33,127.—WILLIAM F. BEECHER, of Chicago, Ill.—*Improvement in Stoves.*—Patent dated August 27, 1861.—This invention consists in having an inverted conical air-heating chamber placed within the stove, and extending from the lower to the upper part of the latter, the lower end of the air-heating chamber being curved and projecting through the side of the stove, and the upper end secured to the top of the stove and closing the upper end of the same.

Claim.—The arrangement of the curved conical air-chamber F, with the stove body A and fire-chamber B, in the manner shown and described.

No. 33,128.—F. BOISSARD and S. CONRATH, of New York, N. Y.—*Improved Bedstead and Trunk Combined.*—Patent dated August 27, 1861.—This invention is explained by the claim.

Claim.—The trunk A, formed of three parts *a b c*, and the flap *d*, connected together by joints, the parts *a b* being provided with lids *g h*, and the part *c* provided with a drawer *f*, all arranged as shown and used, in connexion with a mattress D, and with or without cover or curtain supports B, to form a new and improved combination of a trunk and bedstead, as set forth.

No. 33,129.—HENRY BOWERS, of New Hudson, Mich.—*Improvement in Cultivators.*—Patent dated August 27, 1861.—The novelty of this invention consists in the special arrangement of the several parts as related in the claim.

Claim.—The bolster D, king bolt E, axle A, neap C, beams F F′ M, pieces G G′, hinges H H′, standards or arms K, braces N, ploughs or hoes L L′, and handles P, the whole being constructed, combined, arranged, and operating as and for the purposes described.

No. 33,130.—THOMAS BOYD, of Boston, Mass.—*Improvement in Tents.*—Patent dated August 27, 1861.—Upon the centre pole of the tent is arranged a sliding ring having a number of hooks, with which one end of any desired number and lengths of radiating ridge-poles or rods may be engaged or disconnected at pleasure, for the purpose of increasing or diminishing the size and length of the tent in any one or more directions, the opposite end of the said poles being sustained upon any suitable supporting legs.

Claim.—First, the combination of the centre pole with its travelling collar or ring of hooks, ridge-poles *f f*, &c., and end-sustaining devices, substantially as described.

Second, the arrangement of devices for sustaining the tent, the same consisting of the hinged legs having spindles *k k*, that engage with suitable sockets formed in the ends of the ridge-poles.

No. 33,131.—W. H. H. BURNHAM and SAMUEL B. PIERCE, of Homer, N. Y.—*Improvement in Subsoil Ploughs.*—Patent dated August 27, 1861.—To the rear of the plough-beam is secured a longitudinal bar *d*, provided with a loop and secured to a cross-piece, and between the handles is another looped bar *e*. The shank to which the blade is attached passes through the loops of the above-named bars, and is secured in place by means of two set-screws, which admit of the subsoil being easily detached when the plough alone is to be used.

Claim.—The arrangement of the adjustable bar *e*, secured as set forth, with the shank *a*, blade *c*, bar *d*, set-screws *i i*, and plough A, the several parts being constructed and used in the manner and for the purpose specified.

No. 33,132.—JOHN CAVENDER, of Milton, O.—*Improved Blacksmiths' Hearth.*—Patent dated August 27, 1861.—This invention consists in the use of a hearth-plate, provided with conical or taper perforations and placed over a box having a curved front side and terminating in an inclined spout or chute projecting through the masonry at the back of the forge, the spout having at its end a slide for the emission of the contents of the box, and a plug to regulate the blast. At the back of the box is a pipe, which receives the bellow's nozzle. Directly under the hearth-plate is fitted a slide, to be closed when the box is emptied of its contents.

Claim.—The hearth-plate A having conical or taper perforations B, in combination with the box C, provided with the pipe *f*, slide D, and chute *b*, the latter having the door *c* at its end, all arranged as and for the purpose set forth.

Also, in combination with the chute *b* of box C and perforated hearth-plate A, the plug *d*, for the purpose of regulating the blast, as set forth.

No. 33,133.—WILLIAM CLISSOLD, of Dudbridge, England.—*Improvement in Driving-Belts.*—Patent dated August 27, 1861.—Patented in England May 2, 1861.—This invention relates to that class of driving-belts which bind by lateral pressure on their pulleys, and it consists in forming the band with a bevelled edge, so as to fit in V-shaped grooves formed in the periphery of the driving-pulleys, the band being composed of layers of leather or other material connected together by pins or otherwise.

Claim.—Constructing wedge-shaped driving-belts suitable for working, in conjunction with V-grooved pulleys or links, substantially in the manner and for the purpose set forth.

No. 33,134.—JAMES CURRAN, of Kirkwood. N. Y.—*Improvement in Apparatus for the instant application of Brakes to the Driving-wheels of Tread-Powers.*—Patent dated August 27, 1861.—This invention consists of an arrangement of devices, by means of which the brake is caused to be applied to the driving-wheel when the band becomes accidentally detached by the animal working the machine, thus preventing strain and injury to the animal, incident to such accidental displacement.

Claim.—The apparatus, the principal parts of which are hereinbefore described, and the application thereof to the front and rear of tread-powers, and the security given to the brake by the hammer-strap G, Fig. 5.

No. 33,135.—E. DE BASSANO and A. BRUDENN, of Brussels, Belgium.—*Improvement in the Manufacture of Stearine.*—Patent dated August 27, 1861.—Patented in England May 2, 1861.—This invention consists in adding to new or virgin acidified fatty matters, to be subjected to distillation, carbonaceous or charred matters—by preference, pulverized charcoal—there having previously been added to the fatty matters one-fifth or more of oleine or oleic acid and other oleaginous substances capable of producing elaidic acid.

Claim.—The use of carbonaceous or charred matters or substances, with additional oleine, or such equivalent substance, in the manufacture of stearine, as stated and substantially described, and constituting improvements in the manufacture of stearine.

No. 33,136.—ADAM EXTON, of Trenton, N. J.—*Improved Biscuit Machine.*—Patent dated August 27, 1861.—This invention consists in the use of two moulding-plates, so arranged as to be moved by the action of the cranks and made to slide back and forth along guides, so that the fluted or grooved surfaces of the two plates slide in contact with each other.

Claim.—The moulding plates J K L M, with the flutes or grooves cut thereon, substantially in the shape of a truncated cone, in combination with the cranks or the endless belt, substantially as described and for the purpose set forth.

No. 33,137.—MATTHEW FLETCHER, of Louisville, Ky.—*Improvement in Feed-Cutters.*—Patent dated August 27, 1861.—Attached to the fly-wheel are four plane-irons, so arranged as to operate like a radial knife divided into segments, each segment coming into operation in its turn.

Claim.—First, forming the knife of a straw-cutter of a series of cutting-edges set at different angles, and coming into operation successively, the whole arranged to operate substantially as described, for the purpose set forth.

Second, a series of cutting-edges or knives, so arranged as to come successively into operation, as described, in combination with a rotating carrying fly-wheel, the whole constructed and operating as specified, for the purpose set forth.

No. 33,138.—JOHN C. GIBBS, of Middleborough, Mass.—*Improved Ship-Scraper.*—Patent dated August 27, 1861.—This invention consists of a steel plate combining the straight-edge scraper, with straight and curved edges and sharp and rounding corners, so as to conform to the concave, plane, or angular surfaces of the different parts of the vessel to be scraped.

Claim.—A ship-scraper provided with edges *d e f g*, corners *h h'* and *i i'*, and attached to a tang B and handle C, all as shown and described.

No. 33,139.—A. GIRAUDOT, of New York, N. Y.—*Improved Motive Power.*—Patent dated August 27, 1861.—This invention consists in the combination with a wind-wheel of a bucket-wheel, to be operated by a series of balls of stone or other heavy material, which are conducted to the wheel through long inclined channels, and which, after having descended, are elevated by the action of the wind-wheel whenever the wind has sufficient power to produce a motion of thes ame and of the elevator which serves to raise the balls, the object being to store up the surplus power of the wind-wheel when a high wind prevails.

Claim.—The arrangement, in combination with an ordinary wind-wheel, of a bucket-wheel A, inclined channels B, and elevator C, constructed and operating in the manner and for the purpose specified.

No. 33,140.—JOHN S. GWYNN, of Plainfield, N. J.—*Improvement in Burners for Kerosene and other Glass Chimney-Lamps and Gas-Burners.*—Patent dated August 27, 1861.—This invention consists in pivoting to the rim which supports the chimney, a pawl or catch, so constructed and hung as to retain the lower edge of the chimney by means of its weight.

Claim.—The suspended pawl or click-fastening, in combination with any form of glass chimney or any other burner, substantially and for the purpose set forth.

No. 33,141.—GARDINER HALL, jr., of West Willington, Conn.—*Improvement in Dressing Sewing-Thread.*—Patent dated August 27, 1861.—Upon a suitable frame is journalled a rotating brush-cylinder having its periphery composed of a series of lags, in which are inserted brushes, with openings between the lags. On one side of the cylinder and surrounding the shaft is a stationary air-trunk, having an opening around the shaft for the admission of air to the cylinder through openings in the adjacent end thereof. The trunk connects with an air-heating chamber by steam-pipes or other suitable means.

Claim.—The combination of the following devices in the construction of brush-cylinders of thread dressing-machines, to wit: the hollow cylinder, the brushes *d d* upon its periphery, the openings *b b* between the rows of brushes, the end passages *f f*, and the hot-air-trunk F, communicating with the interior of the cylinder by means of the passages *f*, the several parts being constructed and arranged substantially as described.

No. 33,142.—S. H. HAMILTON, of Macomb, Ill.—*Improvement in Corn Harvesters.*—Patent dated August 27, 1861.—This invention consists in arranging on each side of the

body of a cart a rotating and inclined spiral stripper, combined with gathering forks and a stripping bar for gathering the stalks of standing corn, severing the ears therefrom, and dropping the ears and shelled corn into the body of the cart. Within the body of the machine is arranged an endless apron inclining forwards, for the purpose of carrying the corn to a husking and shelling apparatus at the rear end of the machine.

Claim.—First, the combination of inclined ribbed cylinders G G and bars F F, with the cart-body having inclined sides B B, and otherwise constructed substantially as and for the purpose set forth.

Second, the combination of ribbed cylinders G G, inclined sides B B, bars F F, spur gearing *c c d d'*, husking and shelling cylinder I, concave J, and the endless corn-carrier K2, all arranged and operating as a whole, substantially as set forth.

No. 33,143.—A. H. HAMMOND, of Worcester, Mass.—*Improvement in Metallic Reeds for Musical Instruments.*—Patent dated August 27, 1861.—This invention consists in constructing the stock and the reed of one piece of metal. By means of a rotating burr, a cavity is cut in one side of the stock equal to the intended length of the tongue, with a punch and die of the size and form of the reed, a tongue is then cut out from the thin portion of the metal left at the bottom of the cavity, leaving the tongue attached to one end, the point of the tongue being freed by spreading the adjacent end of the stock.

Claim.—The construction of the stock A and reed proper, or tongue *a*, of one piece of metal, in the manner described.

No. 33,144.—HENRY W. HARPER, of Berlinsville, Pa.—*Improvement in Slate Frames.*—Patent dated August 27, 1861.—This invention is explained by the claim.

Claim.—A slate frame composed of papier maché or pulp, composed of any fibrous material mixed with size, reduced to a plastic state, and while in that state applied to and formed on the edges of the slate under pressure between dies, as set forth.

No. 33,145.—W. D. HARRAH, B. S. BALDWIN, and H. P. JONES, of Davenport, Iowa.—*Improvement in Seed Drills.*—Patent dated August 27, 1861.—This invention relates to that class of seed-sowing machines in which a long horizontal hopper is used, divided into several compartments for different varieties of seed, which are planted in rows or drills, and which seed-tubes, stationary and movable, are used to properly distribute in drills the seed falling from the hopper. The novelty consists in the arrangement of devices named in the claim.

Claim.—The arrangement with the box D, slide E, adjustable perforated plates *g g*, tubes *v v v*, and adjustable tubes *w w w*, of the pitman *n*, crank *p*, adjustable pendulous lever *s*, gear-wheels *m r*, and shaft C, all as shown and described, for the purpose set forth.

No. 33,146.—M. S. HARSHAW, of Sycamore, Ill.—*Improved Washing Machine.*—Patent dated August 27, 1861.—This invention consists in mounting a suitably fitted wash tub on a centre, on which it may be vibrated or partially rotated, and in providing it with pegs which alternately strike a stationary spring as the tub is vibrated.

Claim.—The reciprocating spring D, operating in the manner described and for the purpose specified. Also, the brackets H and I, secured to the tub and its cover for the purpose of producing the necessary currents.

No. 33,147.—HORACE R. HAWKINS, of Akron, O.—*Improved Straw Cutter.*—Patent dated August 27, 1861.—Upon two cross-pieces resting on the top of the feeding-box frame are placed bearings in which the end of a right angled shaft turns, the other end extending down in front of the mouth of the feeding-box, and is there pivoted to the front end of the knife-lever which sustains the knife, the object being to bring great force to bear upon the knife at the moment the cut is made. The front and rear of the feeding-box frame rest on adjusting screws or bolts, by which means the box can be adjusted to any desired height.

Claim.—First, the right angled shaft E for supporting the front end of the knife-lever and knife.

Second, sustaining that end of the knife-lever to which the knife is attached by a racking support arranged over or nearly over the centre of the throat or mouth of the feed-box, substantially as described.

Third, the crooked knife-lever, in combination with its operating crank and shaft, arranged below the bottom of the mouth of the feed-box.

Fourth, the adjusting bolts or screws, or their equivalents, in combination with a vertically adjusting feed-box, whereby the box can be quickly raised, to compensate for the wear of the knife.

No. 33,148.—BENJAMIN HOYLE, jr., and A. RALSTON, of Martin's Ferry, O.—*Improvement in Threshing Machines.*—Patent dated August 27, 1861.—This invention consists in arranging over an endless band straw-carrier one or more rock-shafts with radial tines or fingers, which are vibrated to agitate the straw on the carrier and shake out the grain while the straw is being conveyed on the straw-carrier.

Claim.—In combination with an endless belt straw-carrier of a threshing machine, one or more rock-shafts with radial tines or fingers arranged above the straw-carrier, and operated as described, to agitate the straw on the carrier and shake out the grain.

No. 33,149.—SAMUEL F. JONES, of St. Paul, Ind.—*Improvement in Mole Ploughs.*—Patent dated August 27, 1861.—The mole is connected to the cutter by means of a clevis which is bolted to the cutter, the bolt being allowed to slide within a slot in the cutter. Attached to the clevis is a screw-rod which passes through the beam, and is provided with a nut held in place by a guard on the top of the beam. By this means the mole can be adjusted when the machine is in motion, and the drain be made to run level independently of the unevenness of the ground.

Claim.—First, the method of connecting the mole E to the cutter B by means of the slot *e* and clevis *c*, when constructed and operated substantially as shown and described, for the purpose set forth.

Second, in combination with the slot *e* and clevis *c*, the mole E, screw rod J, and arm nut *m*, when combined and arranged to act conjointly, and used as shown and described, for the purpose set forth.

No. 33,150.—LAWRENCE KEARNEY, of New York, N. Y.—*Improved Washing Machine.*—Patent dated August 27, 1861.—This invention consists of a swinging frame provided with a fluted or corrugated roller, and attached to supports which are pivoted to an ordinary wash-board.

Claim.—The combination of the wash-board A, supports B B, and swinging frame C, provided with the roller D, arranged as shown, to form a portable and new and useful article, for the purpose specified.

No. 33,151.—CHARLES KENISTON, of West Cambridge, Mass.—*Improvement in Shoe-Pegging Machines.*—Patent dated August 27, 1861.—This invention is designed as improvement upon the machine patented to F. J. Vittum, December, 1860, and consists in combining an automatic feed with a hand pegging machine which is operated by the blow of the hammer, so that it shall be actuated by the motions of the plunger which carries the awl and peg-driver, and without the necessity of raising the instrument from the surface of the sole, or of rocking it each time it is fed along.

Claim.—The moveable centre *n*, as combined with the plunger, and so arranged as alternately to engage with the leather to effect the feed and disengage itself therefrom, substantially as described.

No. 33,152.—HENRY KNIGHT, of Jersey City, N. J.—*Improvement in Combination Cement and Metal Pipes.*—Patent dated August 27, 1861.—This invention is explained by the claim.

Claim.—A moulded combination cement and metal pipe, with or without a metal coupling band on one of its ends, substantially as described, which is moulded complete in a single mould at one and the same operation with its metal portion A, intermediate between its inner and outer moulded cement surfaces.

No. 33,153.—P. H. LAWLER, of Spencerport, N. Y., and JOHN B. DOUGHERTY, of Rochester, N. Y.—*Improvement in Machines for Cutting Barrel Heads.*—Patent dated August 27, 1861.—The nature of this invention will be understood by the claim. It does not admit of a brief description.

Claim.—First, the arrangement of the vertical rods or shafts *r r*, carrying the arms or rests *a a*, and connected with the lever H which moves the saw, the whole operating in the manner and for the purpose substantially as described.

Second, the combination of the ratchet wheel and pawl *b* and *c*, with the treadle *t*, and cam M, so that, whenever the screw S is thrown into gear with the wheel W, the pressure of the face plate A against the barrel head may be maintained while said face plate is revolving, and this without the continued supervision of the operator.

Third, the arrangement of the pin *p*, catch *d*, and handle *h*, with the cam M, whereby the screw S is thrown out of gear with the wheel W as soon as the latter has completed one revolution.

Fourth, the combination of the pin *q*, and lever catch *l*, with the handle H of the saw, whereby the saw is maintained in proper position by means of the spring V, while the barrel head is being cut, and is removed by means of the same spring as soon as the face plate B has completed one revolution.

No. 33,154.—THOMAS R. MARKILLIE, of Winchester, Ill.—*Improvement in Churns.*—Patent dated August 27, 1861.—This invention consists of vessel made of earthenware of a square form, but with a rounded bottom, within which works a dasher made with inclined blades.

Claim.—The cream vessel, constructed round at the bottom as high up as the height of the dashers, with the rest of the body of the vessel square, and this in combination with the revolving dasher, operating as set forth and for the purposes described.

No. 33,155.—TOBIAS H. MILLER, of Lancaster, Pa.—*Improved Machine for Rolling Carriage Axles.*—Patent dated August 27, 1861.—This invention consists in using, in connexion with a set of grooved rollers, a pair of tongs for holding the heated iron that forms the axle, so constructed that all the parts of the axle are formed from a single piece without removing the iron from the tongs, (the ends of the iron being merely reversed therein,) and the iron is so gauged that it shall always enter the proper distance between the rollers.

Claim.—The tongs described, provided with the swivel clutches K K, shoulders *k k*, space *l*, and check *i*, for the purpose of holding, turning, and gauging the iron in the process of rolling without removing it from the tongs, when the same is used in connexion with the gauge rod I and grooved rollers C D of the machine, substantially as specified.

No. 33,156.—ANDREW MORSE, of Portland, Me.—*Improvement in Machinery for Ringing Fog Bells.*—Patent dated August 27, 1861.—This invention consists of a mechanism for keeping up a continued ringing of one or more bells, and operated by the conjoint action of a buoy or float that rises and falls with the surging motion of the waves, and certain weights which are wound up by this operation of the buoy, and which are used as a reserve power to ring the bells when the sea is calm, and the buoy ceases to act.

Claim.—First, combining with the barrel B' buoy B, cord *a'*, cord *c*, wheel and axle E E, and weight E2, the double ratchet wheel *d d'*, pawls *c d*3, inside gear *d*2, pinions *g g*2, drum G, and weight J, all arranged and operating substantially as described, for maintaining a constant motion of the bell movement.

Second, the secondary weight R, in combination with weight J, operating as and for the purposes described.

No. 33,157.—D. P. NICKERSON, of Cleveland, O.—*Improvement in Cheese Presses and Hoops.*—Patent dated August 27, 1861.—This invention consists in suspending the hoop to a crane by means of a bail which is attached by lugs to the middle of the hoop so as to admit of the cheese being turned and pressed upon both sides. Hinged to the frame is an adjustable table which is folded up out of the way when not in use.

Claim.—The special arrangement of the hinged hoop M, and bail O, crane R, and adjustable table L, in combination with the described cheese press, when operating conjointly in the manner and for the purpose set forth.

No. 33,158.—JAMES M. ORPUT, of Malta, Ill.—*Improvement in Harvesting Machines.*—Patent dated August 27, 1861.—The axletree of the wagon is prolonged at one side to carry the frame of the harvester which swings on the axle and carries the sickles, the gathering wheel, the elevating endless apron, and the machinery by which they are operated. The height of the sickles from the ground is graduated by means of a lever pivoted to a post on the frame.

Claim.—The arrangement of the vibrating frame carrying the cutting apparatus, reel, endless apron, and gearing, upon the axle *a*, and adjusting the same by means of the lever *n*, substantially in the manner described and for the purpose specified.

No. 33,159.—ALMARIN B. PAUL, of Nevada, Cal.—*Improved Amalgamator.*—Patent dated August 27, 1861.—This invention consists of a reciprocating box provided with a double inclined bottom having an amalgamated surface and a chamber at the inner ends of the two inclines which also has an amalgamated surface, in connexion with which is a series of amalgamated plates projecting down over the chamber at the inner ends of the two inclines which form the bottom of the table or box. A screen is fitted to the upper part of the box.

Claim.—The reciprocating box A, provided with a double inclined bottom *c c*, and chamber *d*, having amalgamated surfaces, in connexion with a traverse piece C, having a curved back or side and pendants *f*, with amalgamated surfaces, the latter being arranged in quincunx form, substantially as and for the purpose set forth.

Also, in combination with the reciprocating box A, and traverse piece C, the screen E extending the whole length of the box or over a portion thereof, for the purpose specified.

No. 33,160.—JOSEPH W. PEARSON, of Winchester, Mass.—*Improved Elastic Pen Holder.*—Patent dated August 27, 1861.—This invention consists in surrounding the body of an inkstand with an elastic rubber band which is formed double for nearly its whole length, making a continuous groove around the edge of the inkstand, into which groove the pens may be stood up when not in use.

Claim.—The elastic band C for holding pens when they are not in use, operating substantially as specified.

No. 33,161.—CHARLES M. PIERCE, jr., of New Bedford, Mass.—*Improvement in Moulds for Earthen or Cement Pipes.*—Patent dated August 27, 1861.—This invention consists in constructing the core of sheet metal in a cylindrical form, and provided internally with two tapering guides between which a key or wedge is fitted, so that, by forcing in the wedge, the core may be expanded to the required diameter, by which means pipes of different internal diameters may be moulded with one and the same core. On the upper edge of the case rests a tool formed of a metal plate or blade for smoothing or forming the convex end of the pipe.

Claim.—First, the sheet metal or elastic core E, provided or arranged with a key or wedge F, or its equivalent, to operate as and for the purpose set forth.

Second, the tool H, formed with a cutting or scraping edge *f*, and smoothing surface *g*, when applied to or used in connexion with the case A and core E, for the purpose specified.

No. 33,162.—HIRAM H. REYNOLDS, of Buffalo, N. Y.—*Improvement in Instrument for the Prevention and Cure of Spermatorrhœa.*—Patent dated August 27, 1861.—The nature of this invention will be understood from the claim.

Claim.—First, the roughened plate H, in combination with a spermatorrhœa instrument, for the purposes set forth.

Second, the spring bars F and G, in combination with the pressure plates D and E, and cone cap A B C, for the purposes and substantially as described.

Third, placing the spiral spring *c* between the two sections of the cone cap for the purposes and substantially as set forth.

No. 33,163.—FREDERICK RICHTER, of Orange, Ohio.—*Improvement in Portable Field Fences.*—Patent dated August 27, 1861.—This invention consists in securing the posts to base pieces by means of pins or keys, so that they may be adjusted to any inclination of the surface of the ground. The panels are connected together by means of holes in the ends of the rails, so that any panel may be made to serve as a gate.

Claim.—The adjustable, or hinged post B, and base A, when the panels are arranged and constructed in the manner and for the purpose as described.

No. 33,164.—DANIEL W. LEELEY, of Albany, N. Y.—*Improvement in Churns.*—Patent dated August 27, 1861.—This invention consists in the use of two dashers, placed side by side, and having their beaters, or arms, placed upon each driving-shaft in the form of a screw, one being placed in advance of the other a sufficient distance to allow the arms to clear, so that when the driving-shafts are put in motion the milk or cream is forced from one end of the churn to the other. Above the dashers are placed discs, consisting of three plates, two of which form a shell or case, and meet together to form a space between, in which a double face plate revolves, and is provided with a series of teeth on each face, the centre of this plate being provided with openings and brackets, connected to a hub which is keyed to a revolving shaft.

Claim.—The use of two screw and parallel dashers, constructed and operating substantially as described.

Second, the sliding or movable pinions F G and P, together with the stationary driving wheel H, for the purpose of working the discs or dashers separately or together, as set forth.

Third, the double-faced plate N, provided with teeth or diamond-shaped pins *n n n n*, revolving between the shell discs L and M when said double-faced plate N is provided with buckets and openings at its centre, substantially as and for the purpose specified.

Fourth, the two screw dashers B C, in combination with the double-faced plate N, when constructed and operating as set forth.

No. 33,165.—JOSEPH J. SHERMAN, of Albany, N. Y.—*Improvement in Balloons.*—Patent dated August 27, 1861.—The object of this invention is to give to the æronaut, in the car beneath, a mechanical control over the volume of gas contained in the balloon, whereby he can increase or diminish its density at pleasure, and thus be enabled to ascend or descend in the air without the expenditure of gas or ballast, which is effected by means of a tube passing vertically through the balloon, within which is arranged a system of pulleys and tackle, one block being attached to the top and the other to the bottom of the balloon, the rope passing down from the blocks to the car below.

Claim.—The combination with a balloon of a pulley, or system of pulleys, applied to operate substantially as and for the purpose specified.

No. 33,166.—MILO D. WILDER, of Laporte, Ind.—*Improvement in Water Elevators.*—Patent dated August 27, 1861.—This invention relates to an apparatus designed more especially for the use of animals to raise their own supply of water, and it consists in the employment of an endless apron of slats connected with a horizontal shaft, to which a governor is applied, which latter, in connexion with a series of levers, form a brake, so as to insure an uniform operation of the pump.

Claim.—The endless platform of slats A, in combination with a pump R and a ball governor, provided with a brake formed of the levers M N O O, operating on a wheel F, all arranged for joint operation as and for the purpose set forth.

No. 33,167.—WALTER YOUMANS, of Waterford, N. Y.—*Improvement in Railroad Car Trucks.*—Patent dated August 27, 1861.—This invention consists in arranging the axles so that they will turn or adjust themselves as the trucks pass over curves in the road, and assume positions corresponding to the radii of the curves, the movement of the axles being controlled or retained in proper positions by curved or segment guides attached to the truck body.

Claim.—The application to a car truck, provided with adjustable axles, of sockets and guides, when said sockets and guides are formed of portions of circles *cx*, the centre of which is in a line *bx* that bisects the axles centrally when parallel with each other, and at right angles to said line, and which line is tangential with the inner line or rail *ax* of the curve, the arcs *cx* intersecting the ends of the outer axles when the latter are in a radial position, substantially as and for the purpose set forth.

Also, the combination of the loose wheels C or M, non-rotating axle B or K″, bolster E or L, and eccentric socket and guide I H or Q R, arranged and operating substantially as and for the purposes shown and explained.

No. 33,168.—Cancelled.

No. 33,169.—JAMES MCNAMEE, of Easton, Pa., assignor to JAMES B. WILSON, of the same place.—*Improvement in Sewing Pins.*—Patent dated August 27, 1861.—This invention consists of a plate or stock, provided at one end with two hooks turned under, and at the other end with one hook turned over the face of the plate, the two to be hooked into the garments at a lady's knee, and the other to hook into and hold the work.

Claim.—As an improved article of manufacture, a sewing pin, composed of a plate or stock A and hooks *a a b*, as shown and described.

No. 33,170.—A. H. MERRILL, of Boston, Mass., assignor to A. H., R. S., and J. S. MERRILL, of same place.—*Improvement in Handling Lamp Chimneys.*—Patent dated August 27, 1861.—This invention consists of a ring, provided with elastic jaws or metal strips, and a handle. The ring being placed upon a heated chimney, the elastic jaws press against it sufficiently to allow it to be held and removed.

Claim.—As a new article of manufacture, a lamp chimney handling device, formed of or forming a griping-frame and handle combined, for application and use substantially as described.

No. 33,171.—JULIUS J. MULLER, of New York, N. Y., assignor to Himself, W. H. MCVICKAR, and H. E. ROEDER, of New York, N. Y., and P. WEILER, of Belleville, N. Y.—*Improved Mode of Concentrating Ores or Tailings.*—Patent dated August 27, 1861.—This invention consists in the employment of a vessel or vessels filled with water or any other suitable fluid, in the upper part of which the pulverized minerals are first agitated until all particles are mechanically suspended in the fluid, when, by the sudden opening of suitable doors or valves, the agitated minerals are allowed to subside into the fluid in the lower part of the vessel, where, by the law of gravity and in exact proportion to the specific gravity of each substance, the several particles of the pulverized minerals will arrive at the bottom in regular layers, those particles of the most value, and having the greatest specific gravity, forming the lowest layer.

Claim.—First, isolating the particles of pulverized ore or minerals, while being mechanically agitated, from the main body of water or liquid fluid through which they are subsequently allowed to fall, substantially as shown and described.

Second, providing the fluid-containing vessel with trap-doors, or their equivalent, constructed substantially as described, and capable of being closed and opened for retaining the ore or for allowing the same to subside into the fluid at pleasure, in combination with the piston or other suitable suction device for mechanically agitating the particles of ore or minerals, by air and otherwise, whereby the agitation of the said ore may be effected previously to its being allowed to fall through the mass of fluid, essentially as set forth.

No. 33,172.—J. W. OSBORNE, of Melbourne, Australia, assignor to S. T. HOOPER, of Boston, Mass.—*Improvement in Photolithographic Transfers.*—Patent dated August 27, 1861.—This invention is explained by the claim.

Claim.—The method described of inking with a greasy ink the whole surface of the sensitive transfer paper, after exposure of the same to light under a negative, before wetting or moistening it, and subsequently removing the superfluous portions of the ink, in the manner detailed in letters patent of the United States issued to Samuel T. Hooper, assignee of John Walter Osborne, on the 25th day of June, 1861, for improvements in photolithography.

No. 33,173.—J. S. SCHUYLER, of New York, N. Y., assignor to J. J. ECKEL, of the same place.—*Improved Oil Press.*—Patent dated August 27, 1861.—Reference to the specification and drawings will be necessary for a proper understanding of this invention.

Claim.—The arrangement, in combination of the hollow follower rod, cross-head E, follower F, arms *a*, pawls *b*, and side rods D, with the double rack bar G, pawls R, levers L, and connected gearing N O Q, as shown and described.

The construction of the perforated tube X, with an attached perforated base plate *l*, as shown and described.

The combination of the movable self-adjusting base plate *l* and tube X with the bottom W, as shown and described.

The combination of the fluted column *m* with the perforated tube X and base plate *l*, as shown and described.

No. 33,174.—ISAAC W. VALANCE, of Lansingburgh, N. Y., and HIRAM LITTLEJOHN, of Troy, N. Y., assignors to ISAAC W. VALANCE, of New York, N. Y., and GEORGE W. VALANCE, of Troy, N. Y.—*Improved Machine for Riveting Hinges.*—Patent dated August 27, 1861.—The nature of this invention consists in arranging a movable hinge clamp with the riveting hammer, so that a person attending the machine can thereby insert and firmly clamp to the hinge, and accurately present it for the action of the riveting hammer, while the latter is constantly revolving and reciprocating at its full working speed without any interference from the vibrating hammer. The movable support for the pivot wire of the hinge while being riveted is operated in combination with jaws for clamping a hinge by its knuckles.

Claim.—First, the described arrangement of a riveting pene or hammer shaped, revolved and reciprocated a uniformly limited distance substantially as described, with a hinge-holder constructed substantially as set forth, and having a certain limited movement toward and from the riveting pene, whereby the operator can freely and accurately present the hinges to the riveting pene while the latter is revolving and reciprocating at its full working speed, as specified.

Second, the combination of a reciprocating riveting hammer and a hinge clamp, so constructed and operated together, substantially as described, as to automatically admit, gripe, and hold a hinge, and strike a series of blows in a circle in different places upon the end of the pivot wire of the hinge, and finally release the riveted hinge as set forth, the combination, as a whole, being substantially as specified.

Third, The movable pivot-wire support C, Fig. 3, when arranged and operated in combination with the jaws B B′ of the hinge-holder, substantially as and for the purpose described.

No. 33,175.—C. C. P. WATERMAN, of Sandwich, Mass., assignor to W. J. JARVIS & Co., of Boston, Mass.—*Improvement in Machines for Grinding Glass Shades.*—Patent dated August 27, 1861.—This invention is explained by the claim.

Claim.—A machine for grinding or roughing glass shades or other articles, composed of one or more upright rotating spindles, provided with suitable means for carrying such articles, working within one or more stationary cups containing the sand or other grinding material, substantially as described.

Also, fitting each of such spindles with a collar *c*, fitted to an opening in the bottom of its respective cup, substantially as and for the purpose specified.

No. 33,176.—WADE H. HAWORTH, of Tonawanda, Ill.—*Improvement in Cultivators.*—Patent dated August 27, 1861.—The front of this machine is supported upon small wheels journaled on the ends of vertical shafts formed with cranks at the top, the wrists of which are connected by a rod. To this rod is attached the tongue, by turning which to one side or the other a similar direction is given to the wheels. The beams to which the share standards are attached are suspended at their front ends by chains from horizontal levers, fulcrumed in the frame and extending backward so that the ploughs may be raised by the feet of the driver, and by means of vertical levers connected by a bar the ploughs can be moved laterally as occasion may require.

Claim.—First, the connecting rod E, and crank-shaft D *d*, employed in the manner explained, to turn the wheels C on a vertical axis by the deflection of the tongue, as and for the purpose set forth.

Second, the combination of the beams K K, levers L M and *n*, rods N *m′* and O, and suspending claims *l*, arranged and operating substantially as and for the purposes explained, in connexion with a four-wheeled cultivator.

No. 33,177.—LEVI A. BEARDSLEY, of South Edmeston, N. Y.—*Improvement in Hop Frames.*—Patent dated September 3, 1861.—This invention consists in the use of horizontal wires permanently stretched between properly secured posts, in combination with detachable horizontal sustaining wires supported from the fixed wires by hooks, which will permit the ready loosening of the sustaining wires from the fixed wires by which they are supported.

Claim.—The employment of permanently fixed horizontal wires, in combination with detachable horizontal sustaining wires supported by the permanent wires, and arranged substantially in the manner set forth, for the purposes specified.

Also, the combination of two parallel sustaining wires, the one above the other, with the connecting tie poles *l*, and the keying clamps *m*, substantially as and for the purpose set forth.

Also, the keying clamp *m*, constructed substantially as above described, in combination with the training cords, for the purpose set forth.

No. 33,178.—BENJAMIN S. BENSON, of Baltimore, Md.—*Improved Machine for Moulding Pipes.*—Patent dated September 3, 1861.—The nature of this invention consists in the construction of a pipe-moulding machine, in which the flask is packed as it is moving downwards, and in which the moulding sand is moistened at the point, and at the moment of its being packed.

Claim.—First, the hopper, in combination with the flask-holder, and moving with it, in the manner described

Second, in combination with a pipe-moulding machine, the reed R, constructed substantially as described, and for the purpose specified.

Third, the combination of the pump-plunger with the hopper, so that water will only be discharged while the hopper and flask are descending together, as set forth.

Fourth, the combination of the cone I and fingers J with the hopper H, substantially in the manner and for the purpose specified.

Fifth, packing the flask as it is moving downwards, as described.

No. 33,179.—WILLIAM BETTS, of Wharf Road, City Road, England.—*New Manufacture of Capsules.*—Patent dated September 3, 1861.—Patented in England January 13, 1849.—This invention relates to metal covers used for closing or stopping the mouths of bottles, and it consists in combining lead with tin by covering the lead with tin over one or both surfaces of the lead, and subjecting them to a heavy pressure between rollers, which causes them to adhere closely together.

Claim.—The new manufacture of capsules, and of a material to be employed therein, as described, and for other purposes as stated, that new material being laminated plates, sheets, or leaves of lead, covered with tin on the surface or surfaces of one or both sides of such laminated plates, sheets, or leaves; the application of the tin to the lead being performed in the manner described, and the adhesion of one metal to the other being obtained by the agency of the same mechanical pressure whereby the lamination of the new material is performed in the manner described.

No. 33,180.—WM. H. BIGELOW, of South Framington, Mass.—*Improvement in Melodeons.*—Patent dated September 3, 1861.—This invention consists in combining, with any desirable number of the playing keys of a melodeon or other similar reed instrument, a series of hooks controlled by a pedal, for the purpose of keeping the keys depressed, and prolonging the tones of the reeds for as long a time as desired after the removal of the fingers of the player from the keys. The reed valves are operated by means of levers connected with the air chest by means of an air-tight fulcrum.

Claim.—First, the employment, in combination with any number of the playing keys of a melodeon or other instrument having reeds and keys of similar character, of a series of hooks G G, or other catches or stops, operating substantially as described, to lock the keys after the depression and produce the effect set forth.

Second, the employment, in combination with the series of hooks G G, of a sliding stop-bar, operating substantially as and for the purpose specified.

Third, the transmitting of the movements of the keys to the reed valves by means of levers *b b*, working through the air chest on air-tight fulcra, substantially as specified.

Fourth, the combination of the pedal P, the spring *u*, and the board or bar *s*, the whole applied to operate substantially as described, in combination with the receiving chamber E of the bellows, for the purpose set forth.

No. 33,181.—JACOB BRADLEY, of St. Mary's, Ohio.—*Improvement in Steam-Engines.*—Patent dated September 3, 1861.—This invention relates to that class of steam-engines known as high and low pressure engines, in which the steam first acts upon a piston in a small cylinder, and afterwards upon a second piston in a large cylinder. It consists in the arrangement of a valve and a system of ports for effecting the induction and eduction of steam to and from the two cylinders; also, in certain means whereby, when it is desired to exert great power, the full pressure of steam can be made to act upon the larger piston.

Claim.—First, the hollow valve E, with its ports *d*, and cavities *e e'*, fitted to a seat having ports *s b b' c c'*, and combined with the steam pipe H, exhaust pipe I, and the two cylinders A G, substantially as specified.

Second, connecting the two ends of the smaller cylinder A by means of a pipe *k*, and stop-cock or stop-valve *l*, substantially as and for the purpose specified.

No. 33,182.—JEHU BRAINERD, of Cleveland, Ohio.—*Improvement in Tanning.*—Patent dated September 3, 1861.—This invention consists in the immersion of skins (previously prepared chemically in a bath of mineral salts) in a decoction made from a species of willow known as salix grisea, (*S. petiolans*, of Lindley, the *S. fuscata*, of Pursh.)

Claim.—The immersion of skins, prepared as set forth in a decoction of salix grisea, as and for the purpose specified.

No. 33,183.—EDWARD BUCKMAN, of East Greenbush, N. Y.—*Improvement in Horse Rakes.*—Patent dated September 3, 1861.—To the back side of the axle there is attached by hinges a bar E having a series of parallel bars secured to it at right angles. To the outer end of each bar there is secured by a hinge or joint a tooth, which is retained in a horizontal position when at work by means of a spring attached to a bar journaled in bearings on the outer bar E. By means of a lever within reach of the operator, the teeth may be released from the action of the springs when a sufficient quantity of hay is raked up. The bars and teeth may also all be raised from the ground by means of a foot lever when necessary.

Claim.—The arrangement of the springs G, and pivoted bar H, with the independent pivoted teeth F, arms E, lever J, hinged bar D, and foot lever L, as shown and described.

No. 33,184.—C. CHRISTENSEN, of Brooklyn, N. Y.—*Improvement in Rotary Engines.*—Patent dated September 3, 1861.—This invention does not admit of a brief description.

Claim.—First, the arrangement of the dogs G G, with square notches *k k'*, in combination with the tooth *i*, bell crank levers *l m l' m'*, arm *o o'*, toothed segments *h h'*, and abutment E, all constructed and operating as and for the purpose set forth.

Second, the arrangement of the cam H, and cut-off valve I, in combination with the rising and falling abutment E, as and for the purpose described.

Third, the employment of the conical packing rings *q*, and inclined faces *r*, on the piston wheel A, in combination with the conical projections *s*, on the inner sides of the disks J, constructed and operating in the manner and for the purpose specified.

Fourth, the arrangement of the angular packing pieces *b*2, hinged pins *c*2, and springs *f*2, in combination with the rectangular packing pieces *a*2, pins *d*2, and springs *e*2, on the sides of the abutment E, as and for the purpose described.

Fifth, the arrangement of the locking spring-bar *h*2, and lugs *l*2, in combination with the self-adjusting spring piston D, constructed and operating in the manner and for the purpose specified.

Sixth, the employment of the stationary pointer L, in combination with groove or mark *m*2, on the rotary central shaft C, as and for the purpose set forth.

Seventh, the arrangement of the conical journal boxes N, in combination with the tapering journals of the rotary shaft C, constructed and operating as and for the purpose described.

No. 33,185.—LEVIN P. BLACK, of Baltimore, Md.—*Improvement in Hydrants.*—Patent dated September 3, 1861.—Between the cylinder and its head is inserted an annular packing, which is inclined downwards and inwards by a lip on the inner rim of the head. This packing is covered with powdered soapstone and closely embraces the plunger, which is made of earthenware, forming a water-tight joint.

Claim.—The combination, in a hydrant or pump, of an earthenware plunger having a vitreous surface with an India-rubber or other similar packing, prepared and arranged substantially in the manner and for the purpose before described.

No. 33,186.—D. M. COCHRAN, of Richmond, Ind.—*Improvement in the Mode of Measuring and Sacking Grain.*—Patent dated September 3, 1861.—This invention consists in the combination of an elevator, a horizontal screw conveyer, and grain receiver, which latter is provided with a horizontal slide, and at its lower end is placed a valve, so that when the grain reaches a point denoting a certain measure above the slide, the latter is closed and the valve opened. At each discharge of the grain from the receiver a pawl of a lever is made to move a ratchet of one tooth, which serves as an indicator or register, denoting the number of discharges of certain measures from the receiver.

Claim.—The combination of the elevator J, the screw-conveyer H, and grain-receiver K, the latter being provided with the slide L and valve M', which valve is connected through the medium of a lever O and pawl P with a ratchet or register Q, all arranged for joint operation as and for the purpose set forth.

Also, the supplemental box E, connected to the box B by joints or hinges *b*, and arranged as shown to admit, when not required for use, of being folded down underneath the box B, as set forth.

No. 33,187.—JOHN DICKINSON, of Brooklyn, N. Y.—*Diamond Protector for Dressing Mill stones.*—Patent dated September 3, 1861.—This invention consists in making the diamond self-adjustable in its pressure upon the stone, by means of its combination with a stock or holder and a tension spring, so arranged as to keep the point of the diamond always firmly in contact with the surface of the stone, and by its arrangement avoid falling into the cavities and the liability to break and destroy the point of the diamond.

Claim.—The use of the stem B, made as described, in combination with the protector stock A and pressure spring F, made and operating for the purposes and substantially in the manner set forth.

No. 33,188.—JOHN DICKINSON, of Brooklyn, N. Y.—*Improvement in Mounting Glaziers' Diamonds.*—Patent dated September 3, 1861.—This invention consists in attaching to one end of the instrument a metal key or glass-breaker, and at the other end the block in which the diamond is set, so that the key and diamond block may be shut up similarly to a pocket knife.

Claim.—The making of glaziers' diamonds in the form of a pocket knife, substantially as described, as a new article of manufacture.

No. 33,189.—DAVID DOUGAL and WM. TRUXAL, of Butler, Pa.—*Improvement in Bee-hives.*—Patent dated September 3, 1861.—This invention consists of a box or chamber having perpendicular sides or walls provided with sloping ledges or projections, so arranged that, in case a moth or fly enters the vestibule and crawls up its sides, it would be stopped by the ledges and deposit its eggs on the under side thereof, which, falling upon the inclined bottom, are carried off from the box

Claim.—Attaching to beehives a vestibule or entrance provided with guards D D and a sloping bottom A, constructed and arranged as described, for the purpose set forth.

No. 33,190.—LUCIAN FAY, of Cincinnati, O.—*Improved Edging Machine for Sheet Metal Roofing.*—Patent dated September 3, 1861.—This invention relates to an automatic provision for bending or setting up the edges of sheet metal for roofing after the single sheets have been united together into long strips or courses.

Claim.—First, the double series of travelling and setting up rollers, C C′ C″ E′ E″ C C′ C″ E E′ E″, for the simultaneous setting up of two opposite edges of a metallic plate, in the manner substantially as set forth.

Second, the described combination of travelling and setting up rollers C and E C′ and E′, &c., the axle D of the setting up roller being secured and adjusted upon the axle A A′, &c., of the travelling roller in the manner set forth.

Third, the notched gauges F F preceding the flanging rollers C E C E, and adapted to guide the machine along the tin and to conduct the edges of the latter between the flanging rollers, in the manner and for the objects stated.

Fourth, forming each axle A, &c., in two sections, secured and adjusted to each other in the manner and for the objects stated.

No. 33,191.—ISAAC FRELIGH, of Bardstown, Ky.—*Improvement in Machines for Dressing Stone.*—Patent dated September 3, 1861.—Secured respectively upon two shafts are rack-wheels to which are attached springs bearing upward, the former beneath the pick-handle and the latter beneath a horizontal arm attached to the under side of the rock-shaft, for the purpose of adjusting the stroke of the pick and regulating its force. Fitted at one end in a box attached to a vertical standard secured upon the bed plate is a shaft, which is supported at its other end in the hollow journal through which it passes. A feather in the hollow journal fitting into a groove in the shaft causes the two to revolve simultaneously, and at the same time permits the hollow journal and gear-wheel to have a lateral movement upon the shaft, and, in connexion with a cam-wheel, rock-shaft, and other mechanism, an intermittent motion may be imparted to the carriage.

Claim.—First, the combination of the feathered shaft T, cam-wheel W, rock-shaft V, arms *q r*, rack *t′*, flanged gear-wheel *t*, and screw-shaft F, operating in the manner explained, to impart an intermittent motion to the carriage E of an automatic stone-dressing machine.

Second, the rag-wheels J K, shafts J′ K′, and springs L L′, operating in conjunction to adjust the pick and regulate its stroke, as explained.

No. 33,192.—GEORGE B. GURLEY and O. G. BRADY, of New York, N. Y.—*Improved Combination of a Cot, Lounge, and Chair.*—Patent dated September 3, 1861.—The object of this invention is to combine a cot, lounge, and chair in such a way that the device may be used for either purpose, and be capable of being compactly folded up for transportation.

Claim.—The frames A A′ A″, formed of parallel bars *a a*. with canvas C attached. and connected by hinges or joints B, in connexion with the stationary legs D and removable legs E E′, connected by bars F and braced by hooks F′, all being combined and arranged to form a new and useful combination of a cot, lounge, and chair, substantially as set forth.

No. 33,193.—ROBERT HALE, of Roxbury, Mass.—*Improved Pipe Coupling.*—Patent dated September 3, 1861.—This invention consists of a hollow coupling, to be slipped over the abutting ends of two pieces of pipe and fitted with some suitable cement which can be poured through a hole made for the purpose, and will then be set or become solid and hold the pipes in position.

Claim.—The described coupling C for conducting pipes, the coupling fitting closely to the pipe at its ends and having a hole *i* through which cement or other packing is introduced into the space *f*, as set forth.

No. 33,194.—PETER HARDER, of Danville, Pa.—*Improved Composition for Roofing.*—Patent dated September 3, 1861.—This invention is explained by the claim.

Claim.—The described roofing composition, made of naptha, shellac, alcohol, rubber, flax-seed oil, asphaltum, and soapstone, in the proportions and manner set forth.

No. 33,195.—DAVID A. HAVILAND, of Fort Dodge, Iowa.—*Improvement in Boot Legs.*—Patent dated September 3, 1861.—This invention consists in the application of a metallic spring to the ankle of the boot, to be enclosed in a folded welt on the outside of the boot, for the purpose of preventing the leg of the boot from falling down, wrinkling, and shortening at the sides and ankle.

Claim.—As a new article of manufacture a high boot, provided on each side with a steel spring secured on the outside of the seam in an outwardly projecting welt, all as shown and explained.

No. 33,196.—G. D. HAWORTH, of Decatur, Ill.—*Improvement in Corn-Planters.*—Patent dated September 3, 1861.—The driver's seat is placed upon the rear ends of two bars, the

forward ends of which are attached to the forward frame that carries the furrow-shares, which bars rest upon an adjustable upright bar as a fulcrum and serves as a lever, so that the weight of the driver on his seat acts as a counterpoise for the forward frame to regulate and graduate the depth of the furrow-shares in the earth, and elevate the shares above the surface of the ground when necessary.

Claim.—The combination and arrangement, as shown and described, of the frame C with the bars and levers *f f*, driver's seat F, and the adjustable bar E. for the purpose specified.

No. 33,197.—J. A. C. and A. S. HICKMAN, of Summerfield, Ill.—*Improvement in Corn-Planters.*—Patent dated September 3, 1861.—This invention consists in operating the reciprocating seed-slides by means of a gear-wheel, attached to the forward axle, actuating a pinion connected to cranks. On the ends of these cranks are attached rods that move levers connected with seed-slides. The seed is covered by the elevation of the shares, which is effected at the proper time by the action of pins or tappets on the rear ends of the connecting levers.

Claim.—The combination and arrangement of the gearing E' F, cranks H H, rods I I, tappets *m m*, and levers J J and T T, as shown and described, for operating the reciprocating seed-slides K K and coverers R R from the axle B'.

No. 33,198.—JAMES HUGHES, of Scranton, Pa.—*Improved Spring Balance for Safety-Valves of Locomotives and other Engines.*—Patent dated September 3, 1861.—This invention consists in a method of applying a screw and levers, in combination with a spring, to constitute a spring-balance for safety-valves, so as to permit the engineer of a locomotive to reduce the load on the valve at once, when the locomotive stops, or at any time when necessary. In connexion with the screw is used an index and graduated scale for indicating the pressure on the valve, and of a stop to prevent the valve from being overflowed.

Claim.—The combination of the spring C, screw H, bar E, and lever or levers F F, the whole applied, arranged and operating substantially as and for the purpose specified.

Also, the described combination of the pressure-regulating screw H, lever I, index *e*, graduated plate *f*, and stop *i*.

No. 33,199.—STEPHEN INMAN, of Rockford, Ill.—*Improvements in a Combined Sliding Hook and Gauge.*—Patent dated September 3, 1861.—This invention consists of a sliding hook and gauge, so arranged as to combine in one and answer the purpose of a square, sliding-hook, chalk line, compasses, and set nails, used in siding up buildings.

Claim.—The piece G, when connected with a sliding-hook in the manner and for the purpose specified, in combination with the gauge M, constructed, arranged and operating in the manner and for the purpose set forth.

No. 33,200.—WILLIAM JEFFERS, of Pawtucket, R. I.—*Improvement in Hose Nozzles.*—Patent dated September 3, 1861.—This invention consists in the use of a swivelled head, constructed with two necks, upon either of which a tip may be secured and afterward turned, to receive and discharge the stream of water, by which means the operator is enabled to readily replace a nozzle-tip with another of different size, while the engine is in full play, without being wet or wasting water.

Claim.—The swivelled head C, provided with separate necks *c* and *c'*, and adapted in the manner explained to exclude water from either neck at which it is desired to apply or detach a tip.

No. 33,201.—R. KEESE, D. T. WARD, and J. G. WILKINSON, of Cardington, Ohio.—*Improvement in Flood Gates.*—Patent dated September 3, 1861.—This gate consists of an axle journaled at each end in standards, and having slats secured crosswise upon it. To the end of the gate is secured a cord, having a weight attached to it, for closing the gate after it has been placed. By means of a float, pivoted to a rod which moves vertically, a latch is raised, which, as the water rises, serves to free the gate so that it turns upon its axle, allowing the water and drift wood to pass freely. As the water recedes, the float falls with the rod and latch, and the gate is closed.

Claim.—The employment of the gate C, when operated as set forth, through the medium of the cord *a*, weight *c*; float *d*, connecting rod *e*, and latch D, for the purpose specified.

No. 33,202.—ROBERT J. MANN, of Seneca Falls, N. Y.—*Improvement in Sleighs.*—Patent dated September 3, 1861.—This invention relates principally to sleds used by boys, and consists in forming the runners of semi-tubular metal, with convex side downwards. A frame of corrugated metal, consisting of longitudinal and cross bars secured together, supports the bed of the sleigh, and is combined with the runners by means of semi-tubular metal braces.

Claim.—A semi-tubular sleigh-runner, constructed substantially as described.

Also, a bed-frame of a sleigh, consisting of a combination of longitudinal and cross bars of corrugated metal combined together, substantially as described.

Also, combining the runners of a sleigh with the bed-frame thereof by semi-tubular braces constructed and arranged substantially as described.

Also, the combination of semi-tubular sleigh-runners, a corrugated bed-frame, semi-tubular braces, and a bed, the four members of this combination being constructed and combined substantially as described.

No. 33,203.—WILLIAM P. MARTIN, of Salem, Mass.—*Improvement in Apparatus for Stirring Tan Vats.*—Patent dated September 3, 1861.—This invention consists in the employment of stationary deflecting-bars, arranged in the bottom of the vat, in combination with agitating-bars arranged on a sliding bar or bars, operated by a hand-lever extending up from the side of the vat.

Claim.—The employment in the vat A of the deflecting-bars *c* and agitating-bars *c*, the whole constructed and operating substantially as described for the purpose set forth.

No. 33,204.—WM. M. MASON, of Polo, Ill.—*Improvement in Corn and Cane Harvesters.*—Patent dated September 3, 1861.—This invention consists in the use of an adjustable inclined reel, in connexion with a platform which is allowed to swing freely on hinges, and is connected at its rear to a lever which is held down by a spring-catch on the frame. The tilting platform has an oblique position relatively to the stationary platform, so that the stalks or cane will be discharged at the back of the main frame.

Claim.—The arrangement of the adjustable reel I, in an inclined position, to operate in combination with the obliquely-hinged platform M, tilting lever N, and spring-catch O, in the manner and for the purpose described.

No. 33,205.—THOMAS J. MAYALL, of Roxbury, Mass.—*Improvement in Flower Pots.*—Patent dated September 3, 1861.—This invention is explained by the claim.

Claim.—As a new article of manufacture, a flower-pot formed of India-rubber or gutta percha, substantially in the manner described.

No. 33,206.—FREDERICK MICHAEL, of Des Moines, Iowa.—*Improvement in the Arrangement of Apparatus for the Manufacture of Vinegar by the Quick Process.*—Patent dated September 3, 1861.—This invention is set forth in the claim.

Claim.—The employment of alternate layers of corn-cobs, charcoal, and ears of corn in the tub used in the described vinegar-making process; the said layers of corn-cobs, charcoal, and ears of corn may be arranged in the manner set forth, or in any other that will produce the same effect when a liquor to be acetified is percolated through the said ingredients.

No. 33,207.—GEORGE MINOR, of Bridgewater, and BURROUGHS BEACH, of West Meriden, Conn.—*Improvement in Washing Machines.*—Patent dated September 3, 1861.—This invention consists in having the axis or journal of the tub, which is made to partially rotate, fitted in an adjustable step formed in the upper end of a screw, which screw passes through the top of the stand on which the tub is placed. Upon the bench are fitted friction rollers, on which the edge of the tub rests.

Claim.—The arrangement of the adjustable step D with the pivot C, rollers F, and tub B, in the manner shown and described.

No. 33,208.—J. B. MOORHEAD, T. A. and G. G. POOL, of Bellefontaine, O.—*Improvement in Cultivators.*—Patent dated September 3, 1861.—Upon each side of the beam are sockets for receiving the shanks of cultivator-teeth, the heads of the said shank being formed with a square notch for receiving a square key. Another notched piece, driven in one side of the key, fastens the whole in the sockets, which arrangement admits of the ready detachment of the teeth when necessary.

Claim.—Arranging the shanks *c c* with a square notch *e*, in combination with the square key *f*, notched piece *g*, socket *d*, and adjustable handles B B, arranged in the manner and for the purposes described.

No. 33,209.—JOHN H. MORRIS, of Niles, Mich.—*Improvement in Machine for Holding Bags while being Filled.*—Patent dated September 3, 1861.—This invention consists in having a hopper or funnel attached to a vertically sliding frame, provided with a rack into which a pinion gears, the hopper being provided with hooks at its lower end so that the tops of the bags may be kept distended, and the bags readily adjusted vertically.

Claim.—The sliding or adjustable frame D, with hopper F attached, provided with hooks *c*, the frame being fitted between the uprights B B, and operated by the rack E and pinion H, and retained at the desired point by the ratchet J and pawl K, substantially as and for the purpose set forth.

No. 33,210.—J. MELVEY and C. OHLEMACHER, of Aurora, Ill.—*Improvement in Railroad Car Brakes.*—Patent, dated September 3, 1861.—This invention relates to that class of brakes to which the power is applied through the medium of the axles of the cars, and consists in the use of a swinging frame suspended to the truck directly back of the axle which is provided with a screw. In this frame is placed a small shaft, provided with a worm wheel, a pulley, and also a ratchet. To the pulley is attached a short chain connected to a rod extending under the car-bed and attached to one end of a lever, by means of which the worm wheel is brought into gear with the screw on the other axle of the truck, which causes the chain to be wound on the pulley and the brakes applied to the wheels.

Claim.—The swinging frame D, connected with the hand lever K, and provided with the

worm wheel F, ratchet H, and pulley G, with the chain L of brake-rod M attached, in connexion with the screw C on one of the axles of the truck, and the pawls *b b* attached to bar I, all arranged as and for the purpose set forth.

Also, the spring T applied to the brake rod M, and arranged substantially as and for the purpose set forth.

No. 33,211.—HENRY NOBLIT, of Philadelphia, Pa.—*Improvement in Metal Fences.*—Patent dated September 3, 1861.—This invention consists in the use of a metal button, having a diamond-shaped opening at its rear, through which passes the stay rail, in connexion with a recess of the railing, by means of which the rails may be securely and readily adjusted to their places.

Claim.—The metallic button and the recess of railing adjusted to the button, constructed and arranged substantially as set forth for the purposes described.

No. 33,212.—ALONZO W. OLDS, of Green Oak, Mich.—*Improvement in Rotary Harrows.*—Patent dated September 3, 1861.—This invention consists in providing the axle at each end with two sockets, one above the other, so that, by adjusting the bearing wheels to the lower socket on one end and the upper one on the other end, the teeth will penetrate the earth more on one side than the other, and thus cause or aid the harrow to rotate as it is drawn over the ground.

Claim.—The interchangeable adjustment of the wheels F F′, in the sockets *e e′*, operating in the manner and for the purpose set forth.

No. 33,213.—ROBERT PARKER, of North Cohocton, N. Y.—*Improved Churn.*—Patent dated September 3, 1861.—This invention consists in the application to a double-dasher churn of a horizontal crank to each crank shaft, connected together by a curved link, and operated by a lever pivoted to the link so that a backward and forward movement being given to this lever, either a simultaneous, vibratory, or rotary movement may be communicated to both dashers.

Claim.—The combination of the cranks, the curved links, and the operating lever, arranged as described, for the purpose set forth.

No. 33,214.—WILLIAM RIESS, sen., of Reading, Pa.—*Improvement in the Mode of Manufacturing Sheet Iron.*—Patent dated September 3, 1861.—This invention is explained by the claim.

Claim.—The new and improved process of manufacturing sheet iron, as an entirety, consisting of the following subdivisions:

First, the mixture of equal parts by weight, of chalk, porcelain, clay, and graphite diluted with water to the consistency of molasses, as described above, substantially in the manner and for the purpose specified.

Second, the bath, consisting of one part concentrated sulphuric acid and three parts water, substantially in the manner and for the purpose specified.

Third, the lye, consisting of one part potash diluted with twenty parts of water, substantially in the manner and for the purpose specified.

Fourth, the method of producing a carburet on the surface of the plates, and of embodying the said carburet with the latter, substantially as and in the manner set forth.

No. 33,215.—PETER SHEARER, of Reading, Pa.—*Improvement in Air or Gas Engines.*—Patent dated September 3, 1861.—The principal objects of this invention are, 1st, to obtain the advantage which, in the use of air as a motive agent, results from subjecting it to a very high degree of compression before expanding it by heat; 2d, to obtain the advantages resulting from the use of water as a medium through which the air acts, viz: lubrication of the wearing surfaces and the prevention of leakage at the valves and other parts of the engine. The invention does not admit of a brief description.

Claim.—First, the combination of the reservoir or cooler A, the power cylinder C, and its piston C′, the supplementary cylinder F, and its piston F′, and the two heaters D E, the whole applied, in relation to each other, to operate substantially as specified.

Second, the combination with the said reservoir, cylinders, and heaters of the pump B, applied and operating substantially as set forth.

Third, combining the piston F′ of the supplementary cylinder F with the main shaft *a*, by means of the crank *a*4, of longer stroke than the driving crank, and the jointed connecting rod F3, applied and operating substantially as set forth.

No. 33,216.—WILLIAM STAEHLEN, of Brooklyn, N. Y.—*Improvement in Bird Cages.*—Patent dated September 3, 1861.—This invention consists in the arrangement of sockets formed by the seams of the cross bands of a bird cage in such a manner that the wires are sustained without the aid of solder. In the interior of the seed cup and upon the top of the seed is arranged a sliding disc, provided with a central opening, so that the bird, while feeding, is prevented from scattering his food about the cage or room.

Claim.—First, the arrangement of the sockets *a*, formed by the edges of the cross bands A, of bird cages, substantially as and for the purpose described.

Second, the perforated disc E, in the interior of the seed cup D, substantially as and for the purpose set forth.

No. 33,217.—ORLANDO TALLCOTT, of Chicago, Ill.—*Improvement in Feeding Paper to Printing Presses.*—Patent dated September 3, 1861.—The nature of this invention will be understood from the claims.

Claim.—First, the use of friction pads for the purpose of moving the top sheet of a pile of papers forward against front stops, and sideways against side stops, substantially as described.

Second, feeding the sheets between two frames or plates, placed far enough apart to allow a single sheet to pass freely between them, and near enough together to prevent the sheet from doubling up by means of the force applied to bring it to its proper place, when constructed and operated in the manner and for the purpose set forth, substantially as described.

Third, in combination with the pads 3 3, the adjustable side stops 4 4, the same to be adjustable at any required distance from the centre.

Fourth, the several devices in combination substantially as set forth and described.

No. 33,218.—HAMILTON E. TOWLE, of Exeter, N. H.—*Improvement in Bolt Drawing Machines.*—Patent dated September 3, 1861.—This invention is explained by the claims.

Claim.—First, the combination with the jaws of bolt-pulling machines, constructed and arranged to operate substantially as described, of grooves which are larger at or near the back part of them than further forward, making substantially dovetailed grooves; in which the jaws are positively guided, by having their exterior surfaces fitted to them, so as to slide freely in the grooves and operate substantially as described.

Second, in combination with the jaws of bolt-pulling machines the links *d*, having joints at either or both ends, by which the jaws are moved in the dovetailed grooves, substantially as described.

No. 33,219.—JAMES TURNER, of Chicago, Ill.—*Improvement in Apparatus of Rendering Lard and Tallow.*—Patent dated September 3, 1861.—Passing through the stuffing box in the top of the tank which contains the lard or tallow is a sliding pipe, to which is attached a float resting upon the surface of the tallow. At the upper end of the sliding pipe is a cock, and the pipe communicates by means of two elbow pipes, with a stationary delivery pipe, that leads the melted tallow to any part of the building.

Claim.—The combination of the float *c*, the sliding pipe *a*, and the stationary pipe *i*, in the manner described and for the purpose specified.

No. 33,220.—HENRY VAN DEWATER, of Weedsport, N. Y.—*Improved Water Wheel.*—Patent dated September 3, 1861.—This invention consists in the use of two water wheels, the buckets of which interlock or meshes into each other, enclosed within a case, the lower part of which communicates with a vertical draught tube. The upper part of the case communicates with a tube which contains a gate formed of two inclined planes connected at their upper ends by a flexible joint, and bearing or resting upon V-shaped guides at opposite sides of the tubes. The gate is connected by a rope to a windlass above, so that, when raised, the planes will approach each other and admit more water into the tube, the water falling equally upon the wheels.

Claim.—The two wheels A A, having their buckets *b* interlocked or geared into each other, in combination with the draught tube D, substantially as and for the purpose set forth.

Also, the gate F, formed of two planes *c c*, resting on V-shaped guides *d' d'*, connected by a joint *d*, and attached to a windlass H, all arranged as and for the purpose set forth.

No. 33,221.—HENRY WARREN, of Goshen, Ind.—*Improved Article of Toilet Soap.*—Patent dated September 3, 1861.—The ingredients of which this is composed are Brown's opodeldoc, alcohol, spirits of turpentine, spirits of ammonia, sal soda, borax, and spermaceti.

Claim.—As an article of manufacture, a soap made of the ingredients described, in the manner and in the proportions substantially as set forth.

No. 33,222.—HUGH WHITEHILL, of Newburg, N. Y.—*Improvement in Machinery for Dressing Yarn.*—Patent dated September 3, 1861.—This invention consists in the use of a reed made of a solid longitudinal central bar which keeps the two sections of the yarn separate, and being provided with spring bars on top and bottom to prevent the yarn from jumping over the upright rods of the reed. The speed of the dressing brush is regulated by imparting rotary motion to it through the agency of the yarn itself, so as to obviate the disadvantages arising from a varying speed of the yarn. The yarn is made to pass to a steam-heated cylinder, the surface of which is fluted so that currents of cold air may pass between the yarn and heated cylinder to prevent baking of the yarn if the dressing frame is stopped.

Claim.—First, the arrangement of the reed C, consisting of a longitudinal central rod *a*, and vertical partition rods *c*, in combination with spring bars *b*, substantially as and for the purpose described.

Second, regulating the speed of the dressing brush, by imparting rotary motion to it through the agency of the yarn itself, substantially as and for the purpose specified.

Third, the employment of a steam cylinder O, with a fluted surface, as and for the purpose set forth.

No. 33,223.—JAMES A. WILCOX, of Rocky Hill, Conn.—*Improved Pipe Wrench.*—Patent dated September 3, 1861.—This invention consists of a hooked or bill-shaped jaw, combined with an adjustable fulcrum to which the jaw is pivoted, and on which it turns, so that it may be set or adjusted to different sizes of pipes, and which, when so adjusted, will seize the pipe at every forward action of the hand, and will slip or turn upon the pipe when bringing it back to take a new hold.

Claim.—First, the combination of a hooked or bill-shaped jaw and an adjustable fulcrum, to which the jaw is pivoted, and on which it turns, and the combination, with said jaw and fulcrum, of the stop or shoulder *i*, substantially as described.

Second, a wrench for turning pipes or round bars or rods, constructed and operated substantially as above described.

No. 33,224.—LOUIS YOUMANS, of Fulton, N. Y.—*Improved Low Water Detector for Steam Boilers.*—Patent dated September 3, 1861.—This invention consists of a pipe entering the boiler at or near the top, and opening thereinto at the lowest level to which it is intended for the water to sink, and furnished outside of the boiler with a cock, to whose plug are attached two opposite arms carrying balls, one of which is hollow and always in communication with the boiler through the cock, so that when the water level descends below the pipe the water runs from the hollow arm and ball, and the other arm and ball are caused to open the cock to whistle and permit the escape of steam to give an alarm.

Claim.—The combination of the tube A, whistle G, or its equivalent, cock E, hollow arm D′, hollow ball F′, and balance ball F, arranged and operating in relation to each other substantially as and for the purpose specified.

No. 33,225.—E. A. MARSHALL, of New York, N. Y., assignor to Himself and THOMAS CARTER, of the same place.—*Improvement in Tobacco Pipes.*—Patent dated September 3, 1861.—Antedated August 10, 1861.—This invention is explained by the claim.

Claim.—As a new article of manufacture, a smoking pipe, made extensible by fitting one portion of the stem so as to slide within the other, as and for the purpose specified.

No. 33,226.—RUFUS PORTER, of Melrose, Mass., assignor to Himself and H. T. LITCHFIELD, of East Boston, Mass.—*Apparatus for Supplying Dwelling-Houses with Water.*—Patent dated September 3, 1861.—This invention consists in an arrangement of gearing operated by a weight or spring, so as to apply a continuous force to a small submerged force-pump ready to operate the same, whenever the water which is elevated by the said pump is permitted to flow—thus applying the power obtained by the weight or spring to the purpose of producing a flow of water from the well without the labor of a hand-pump.

Claim.—The combination of the pump A, the weight W, the pinions I K, the gears, J L, and the discharge pipe G, when the whole are constructed and made to operate together, substantially in manner as set forth.

Also, the pump A, as constructed and made to operate substantially in manner as specified.

No. 33,227.—H. S. PRATT, of Hartford, Conn., assignor to J. J. HOUGH & CO., of Meriden, Conn.—*Improved Tinsmith's Shears.*—Patent dated September 3, 1861.—This invention is explained by the claim.

Claim.—As an improved article of (old) manufacture, viz: tinsmith's shears, having the back of the inner surfaces of the blades or jaws made diverging or curved, from the line of motion of the working surfaces, substantially in the manner as and for the purpose described.

No. 33,228.—JAMES C. ADAMS, of Baltimore, Md.—*Improvement in Meat-Curing Apparatus.*—Patent dated September 10, 1861.—Upon the upper floor of a building is placed a reservoir containing brine. Leading from this reservoir to the lower floor is a pipe, to the lower end of which is secured an instrument consisting of a sleeve, pipes, and pointed nozzles, perforated at their ends for the escape of the liquid. The perforated nozzles are inserted in the meat, and the brine injected by pressure from its own weight.

Claim.—Saturating pieces of meat with brine or other preservative liquids under uniform hydrostatic pressure by means of apparatus substantially as specified, for the purpose of rapidly salting or curing the same.

No. 33,229.—HORACE L. ARNOLD, of Elk Horn, Wis.—*Improvement in Machines for Dressing Hides.*—Patent dated September 10, 1861.—This invention consists in the employment of an alternately reciprocating carriage, arranged over a horizontal bed, on which the hides to be dressed are suitably clamped, and carrying suitable knives and a rubbing plate, arranged within said carriage, so as to operate upon the hides at every forward stroke of the carriage.

Claim.—First, the described arrangement of reciprocating knives H J, working over an adjustable bed D, in the manner and for the purpose substantially as set forth.

Second, a knife J, placed in plate F, and working through this plate as described, for the purpose set forth.

Third, placing in front of knife J and plate F a disconnected independent rubber plate E, as and for the purposes specified.

Fourth, the manner described of securing the knife H to the rubber plate F, so that it can be adjusted relatively thereto for the purposes set forth.

Fifth, a knife stock J, with bearings, prolongations, tongue-clamping plate *k'*, and bolts *k*, for securing and adjusting knife J, as set forth.

Sixth, the arm *n*, with gauge screw *n'*, stud *o*, and set screw Z, as set forth, for the purpose mentioned.

Seventh, a hand lever *p*, rack shaft *p'*, and bearings and spring *o'*, for elevating bent arm *n*, for the purposes mentioned.

Eighth, keeping the knife plate F and rubber plate F' snug upon the hide by means of springs *i i i*, arranged as set forth.

Ninth, the combination of buffers *g g*, sliding rectangle G', inclined planes *e e e e*, lifting frame G, studs *d d c c c c*, with their nuts, by means of which all the tools are lifted from the hide at the commencement of the return stroke and suffered to fall upon it again at the commencement of the working stroke, substantially as described.

Tenth, the combination of the buffers *g g* with the sliding frame G', rack *h*2, pinion *h'*, shaft *g*2, and loaded arm *g'*, as set forth.

Eleventh, placing the bed D in front of the saddle-way B, instead of beneath it, as and for the purpose set forth.

Twelfth, so forming and extending the saddle C and its plate C' that it may work over bed D, in the manner set forth.

Thirteenth, giving motion to the saddle C, or cutter head of a hide-dressing machine by means of a segmental slotted lever E, as described, whereby a uniform motion of the tool is obtained.

Fourteenth, hinging the bed D of a hide-dressing machine to the frame A, at one end, and supporting said bed at the opposite end by adjusting screws *r' r'* on brackets S. as and for the purposes set forth.

No. 33,230.—CHARLES G. ANTHONI, of Paris, France.—*Improvements in Photographic Apparatus.*—Patent dated September 10, 1861.—Patented in England December 10, 1860.—This invention is explained by the claim.

Claim.—First, the arrangement of the sensitizing and developing baths within the camera box, and in relation to the camera in such manner that I can sensitize the plate, take the picture and transfer the picture to the developing bath without removing the plate from the dark room formed by the camera and baths, substantially as specified.

Second, the combination of the hooks *k k k' k'* and *k'' k''*, the whole applied and operating substantially as and for the purpose specified.

Third, the hooks *q q'* applied and operating substantially as and for the purpose set forth.

No. 33,231.—HENRY H. BEACH, of Philadelphia, Pa.—*Improvement in Grain Separators.*—Patent dated September 10, 1861.—This invention consists in combining with the fan a series of deflectors forming a series of flues, and so placed in relation to the fan that a direct blast is driven through the flues, while the grain falls between the fan and deflectors without coming in contact with either. In the several deflectors are formed elbows which hinder the escape of the grain through the flues, but allow the escape of impurities.

Claim.—First, the combination of the series of deflectors D, with the fan B, and the delivery board E, when constructed and arranged substantially as described and for the purpose set forth.

Second, the elbows K, combined with the deflectors D, and the fan B, the whole substantially as and for the purposes described.

No. 33,232.—EDWIN R. BIGELOW, of Salem, Mass.—*Improved Clothes Frame.*—Patent dated September 10, 1861.—To the upper part of a stand or back is secured a semicircular notched bar, in the rear of which is a semicircular rod or wire having fitted upon it slotted bars. These bars are drawn up on the wire and are supported by the notched bar, radiating from the back as a centre.

Claim.—The construction and arrangement of the standard A B, the bars or rods D, with or without the wire, all substantially as shown and set forth, for the purpose described.

No. 33,233.—EARLL BELLINGER, of Hickory Corners, Mich.—*Improvement in Seeding Machines.*—Patent dated September 10, 1861.—The hinged hoe levers are arranged in pairs, each pair being suspended from the end of foot levers, the other ends of which converge in front of the driver's seat, so that each pair can be raised independently of the others by the driver on his seat. By means of a hand lever at the driver's side, a journal-box may be thrown in and out of gear with a pinion, so that the reciprocating motions of the seed-slide are easily regulated.

Claim.—The arrangement of the hinged hoe levers L, and guides N, and foot levers M, with the lever *n*, rod *k*, pinion F, box G, and seat H, all as shown and described.

No. 33,234.—HENRY K. W. BOARDMAN, of Chicago, Ill.—*Improvement in Vaginal Syringes.*—Patent dated September 10, 1861.—This invention will be understood from the claims.

Claim.—The contracting and self-expanding syringe ball D, attached to a hollow shaft C, passing through the cylinder A, with the sponge attachment B.

Also, the sponge attachment B, to act as a tampon or plug, in connexion with the syringe ball D and shaft C, and introduced by means of the cylinder A, to retain the injection made by means of said syringe, thus to permit and insure a more perfect and complete effect of the injection so made.

No. 33,235.—RILEY BROTTON, of Oskaloosa, Iowa.—*Improvement in Cultivators.*—Patent dated September 10, 1861.—The expanding toothed frames are formed of two curved bars connected at their rear ends by joints to a short bar, and are so arranged as to admit of contraction or expansion by means of a lever within reach of the driver. The frames are suspended to levers, so that either or both may be raised by the driver as the machine moves along.

Claim.—The expanding toothed frames G G, constructed substantially as shown, connected to the mouthed bar A through the medium of the levers K K, and attached to the elevating levers J J by means of rods *e e f g*, all combined and arranged for joint operation, as and for the purpose set forth.

No. 33,236.—EDWARD R. CHANDLER, of Cambridgeport, Mass.—*Improvement in Blind Fastenings.*—Patent dated September 10, 1861.—To the upper part of each blind is applied a staple, which is made to engage in a bifurcated catch secured to the corresponding part of the window frame.

Claim.—The arrangement of the catches E E E E and the loops or staples D D, with respect to the window frame G and blinds B B′, and so as to operate together in the manner as set forth.

No. 33,237.—JOHN H. COBURN, of Lowell, Mass.—*Improvement for Window-Sash Fastener.*—Patent dated September 10, 1861.—This invention is explained by the claim and engraving.

Claim.—The peculiar construction of case E, with its teeth I to prevent its turning, by penetrating the sash C and carrying the catch-lever F and its spring L in operating condition, and so that all can be secured to the sash by one screw, substantially as described, in combination with catch K, secured to the opposite sash, and so constructed and arranged with case E that the simple act of closing the sashes locks or fastens them firmly together, and also in the window frame, and also draws the joint rigidly close between the lips and the sash entirely across the window, substantially as described.

Also, my sash-fastener, constructed substantially as described, in combination with the sash or sashes, substantially as described and shown.

No. 33,238. CHRISTOPHER CORY, of Lima, Ind.—*Improvement in Apparatus for Evaporating Saccharine Fluids.*—Patent dated September 10, 1861.—The commencing and finishing ends of the pan are separated from each other by a partition, situated in that portion of the pan which is exposed to the most intense heat. This partition is provided with a gate, by raising which the clarified sirup is made to pass into the finishing portion of the pan freed from impurities.

Claim.—The arrangement of the elevated central partition D and gate F, with the divisions B C and partitions E, as and for the purpose shown and described.

No. 33,239.—DE WITT C. CREGIER, of Chicago, Ill.—*Improvement in Hydrants.*—Patent dated September 10, 1861.—This invention consists in the arrangement of a supplementary valve below the main valve, and operated independently thereof by a positive mechanism, both in opening and closing, in such a manner that the supplementary valve may be made to shut off water while the main valve, or the whole hydrant, is being repaired.

Claim.—First, the arrangement of the supplementary valve I, immediately below, and operated in both directions by a positive motion independently of the main valve B, substantially as and for the purpose described.

Second, the combination and arrangement of the female screw *a*, fixed to or cut in the portion A, the valves B and I, rod C and C′, corresponding hole *i′*, screw-thread *i*, and removable pin H, substantially as and for the purpose set forth.

No. 33,240.—A. S. CROSS, of Ripon, Wis.—*Improvement in Planes.*—Patent dated September 10, 1861.—Upon each end of the plane-stock is secured a metal plate provided with a circular slot. Screwed to the stock is a bent arm, one end of which is provided with a slot, the parts being so arranged, in connexion with a guide, as to form a mitre.

Claim.—First, the combination of the arm 2, provided with slot 4, with the slot in plate 1, for the purpose of extending the slot 3, to form a mitre.

Second, the combination of the guide 7, the arm 2, the slotted end plates 1, and the screws 5 and 6, when the several parts are constructed and arranged in the manner set forth.

No. 33,241.—L. S. FAIRCHILD, of Cleveland, O., and W. B. STURGESS, of Troy, N. Y.—*Improvement in Water-Wheels.*—Patent dated September 10, 1861.—Secured to the lower plate is a circular case or rim having spiral planes on the outside to guide the gate as it is moved up and down. The gate is of a circular form and notched at the lower part, so as to fit the spiral planes. Under the upper plate is a disconnected stationary hub, around which are arranged four chutes. To the hub of the water-wheel are secured wings, revolving inside of the case.

Claim.—The circular gate F, the spiral planes E, and the chutes M N O P, when these parts are constructed as described and arranged in their relation to the wheel R S T, as specified, and operating in the manner and for the purpose set forth.

No. 33,242.—THOMAS FISHER, of Camden, N. J.—*Improved Portable Manger.*—Patent dated September 10, 1861.—This invention consists in attaching a bag to rods hinged to each other, and so supported by straps upon the animal as to enable him to feed from the bag with the same facility as from a stationary manger.

Claim.—The rods A B B and C C, hinged to each other and arranged substantially as set forth, in combination with the hoops *d d*, or the straps F and G, or other equivalent appliances, and the bag D, for the purpose specified.

No. 33,243.—PETER FRAER, of West Springfield, Pa.—*Improvement in Cattle Pumps.*—Patent dated September 10, 1861.—Underneath the forward end of a hinged platform is attached, by a rack-bar, a pendant, to which is connected a lever. This lever is made to operate the piston of a pump, so that an animal, by stepping upon the platform, causes the water to be forced up into a trough.

Claim.—The combination of a platform G, with a spring N attached, or its equivalent, the pump B, eduction pipe C, and trough F, arranged for joint operation, as and for the purpose set forth.

No. 33,244.—JOSEPH A. FRANCE, of Cobleskill, N. Y.—*Improvement in Breech-Loading Ordnance.*—Patent dated September 10, 1861.—This invention consists in the arrangement of the confining screw and its relation to the yoke and the head of the breech-pin, whereby, by a single continuous motion, the yoke is depressed and the breech-pin clamped, or the yoke is elevated and the breech-pin released.

Claim.—First, the combination of the yoke B, with its screw *j* and winch C, when constructed and operating substantially as set forth.

Second, the combined breech-pin and charge-chamber, when the former is provided with a thick concave head and the latter has a bore at its mouth larger than the bore of the barrel, as set forth.

Third, the combination with the yoke B, screw *j*, and winch C of the combined breech-pin and charge-chamber A, as and for the purpose described.

No. 33,245.—WILLIAM FRANK, of Mount Sterling, Ill.—*Improvement in the Locks of Fire-arms.*—Patent dated September 10, 1861.—The hammer tumbler is provided with an arm projecting rearward from one side of it, and to this arm the trigger is attached by a pin in such a manner as to be permitted to work through a slot in the bottom of the lock-frame, and acts as a secret trigger. In connexion with the above is an adjustable plate and regulator for adjusting the parts so as to act as a hair trigger. A sliding piece of steel is fitted under the lock-frame which serves to prevent the accidental cocking of the gun.

Claim.—First, the notched trigger E, attached to the tumbler, and operating through a slot *i*, in connexion with a stationary edge *o*, substantially as described.

Second, the adjustable piece G, and the regulator *l*, applied in combination with each other and with the notched trigger, substantially as described.

Third, the protector H, constructed, applied, and operating in combination with the trigger E, substantially as specified.

No. 33,246.—BRADLEY W. FRANKLIN, of New York, N. Y.—*Improvement in Vulcanizing Caoutchouc in Single-chamber Apparatus.*—Patent dated September 10, 1861.—This apparatus is particularly adapted to the vulcanization of plates and gums for artificial teeth. The nature of the invention is explained by the claim.

Claim.—The mode of vulcanizing India-rubber and other gums, as set forth, by the use of an apparatus constituting but one chamber, without fittings or other parts, substantially as set forth and described and for the purpose specified.

No. 33,247.—FLORIAN GROSJEAN, of New York, N. Y.—*Improved Process of Making Iron Spoons.*—Patent dated September 10, 1861.—This invention consists in first rolling a bar or plate of iron of a proper width for the length of the spoons, and thin at its edges, with sufficient substance in the middle for the handle of the spoon, and then cutting out the spoons crosswise of the bar or plate; after which, they are bent into shape, and the bowl formed by means of swages.

Claim.—The process or mode described of making iron spoons by first forming a bar or

plate of iron tapered at the edges as described and shown, and afterwards cutting the spoons therefrom in the manner set forth.

No. 33,248.—W. H. GUY, of Jonesville, Mich.—*Improved Cheese Press.*—Patent dated September 10, 1861.—This invention consists of an apparatus for compressing the cheese by its own weight and that of a sliding frame, in which it is held by means of suspending levers with any required force.

Claim.—First, the counterbalance lever K, operating in connexion with the stem I, follower H, and suspended sash frame G, to regulate the pressure as explained.

Second, the pivoted blocks *c*, employed to support the suspending levers J, in the manner set forth.

No. 33,249.—W. H. GWYNNE, of New York, N. Y.—*Improvement in Apparatus for the Manufacture of Water Gas.*—Patent dated September 10, 1861.—Within or forming part of the top of a stove is a boiler, upon which is placed a carbonizer. Below the boiler is the retort. By means of a pipe the gas is conducted from the carbonizer down and across the fire space, and reheated, whence it passes into the cooler, and from that to the gasometer or burners.

Claim.—The combination and arrangement of the boiler C, retort B, carbonizer D, and reheating pipe I I, the whole being connected and arranged so that the process of generating the steam and making illuminating gas will be carried on or performed in the manner set forth.

No. 33,250.—ROBERT HITCHCOCK, of Watertown, N. Y.—*Improvement in Self-winding Clocks.*—Patent dated September 10, 1861.—The object of this invention is the automatic winding up of a clock by combining it with a ventilator or atmospheric current power, whereby the clock may be kept constantly wound, and the room in which the clock is situated may at the same time be ventilated.

Claim.—First, rendering permanent and equal or preventing excessive inequality in the action of the main spring of a clock, by combining therewith a flutter-wheel, or its equivalent, acted upon by a flue or other similar draft, and operating to wind the spring, as shown and described.

Second, winding a clock or other time-keeper by means of a current of air produced by a pipe, flue, or other artificial channel employed for ventilation or otherwise actuating an air motor.

Third, the arrangement of a flutter-wheel or wheels made either with movable or immovable vanes, in a tube or its equivalent, placed in a wall, flue, of other shaft, whereby the current or draft thereof, or obtainable therefrom, is made to actuate the wheels of a clock-work for the purpose or purposes specified.

Fourth, in combination with the shaft of a clock-operating spring, a flutter-wheel constructed as described, having its vanes so connected and hinged to radial spindles on said shaft as that the said vanes shall be be allowed of being opened and closed and be made self opening by their weight, essentially as shown and described.

Fifth, the combination for joint operation of fore and aft flutter-wheels, the one having movable or opening and closing vanes, and the other immovable ones, as described.

Sixth, controlling the opening and closing of the movable vanes of a flutter-wheel by the action of the main-spring of a clock, substantially as specified.

Seventh, the combination of devices consisting of the stop or stud on the main-spring barrel the notched wheel gearing at intervals from the former and provided with an inclined plane, the sliding collar on the main-spring arbor and lever, hand and sliding collar, operated thereby, or the equivalents of these devices, for the purpose described.

No. 33,251.—EZRA P. HOYT, of New York, N. Y.—*Improvement in Securing Carriage Wheels to Axles.*—Patent dated September 10, 1861.—This invention consists in the use of a right and left screw formed on the end of the axletree, in combination with a right and left nut, so that the reversal of the motion of the axletree to unscrew the inside nut causes the screwing up of the outer nut, and thus prevents the wheel from being detached from the axletree.

Claim.—The combination of the right and left hand screw nuts D and E, made and operating in the manner set forth and described.

No. 33,252.—E. J. KEEP and W. H. BRIGGS, of Stockton, Cal.—*Improvement in Horse power Machines.*—Patent dated September 10, 1861.—Upon a vertical shaft is secured a large spur or master-wheel, which shaft is stepped in a block and has its bearings in a stationary collar around which the wheel revolves. The master wheel is composed of a toothed ring, beyond which projects a double-bevelled flange for receiving two sets of friction wheels, and a vertical flange which serves as a support for lever sockets, the latter having a series of radial arms which unite centrally in a hub of the large wheel.

Claim.—The combination of the stationary hollow axis and journal *c'*, with the master-wheel C, hub C2, and shaft C', as shown and described.

Also, the construction of the open-toothed wheel C, with a circular-toothed ring *a*, double-bevelled flange *a'*, vertical flange *f*, and radial armed hub C2, all as shown and described.

No. 32,253.—EZRA H. LEWIS, of Kingston, N. Y.—*Improvement in Stone-Dressing Machines.*—Patent dated September 10, 1861.—Upon a rectangular frame are mounted two parallel shafts, connected by a strap or link, and allowed to slide in their bearings. Upon the end of one of these shafts is a screw which works in a half nut, and serves to feed along the axes or cutters. The opposite end of the shaft is provided with a socket which receives a square end of the driving shaft, by means of which motion is communicated to the two shafts. One of the shafts is also provided with wipers or cams, which act upon arms to elevate the axes or cutters. The cutting of the oblique or bevelled faces of the stone is thus effected by a simple adjustment of the axes or cutters.

Claim.—The two rotating and sliding shafts C D, connected as shown, and operated from the driving shaft B by means of the square *c* and socket *b*, the shafts C D being provided respectively with the axes or cutters G, and the wipers E E, and the shaft C, provided with the screw *a*, working in the half nut *a**, all combined and arranged to operate as and for the purpose set forth.

No. 33,254.—SIEGFRIED MARCUS, of Vienna, Austria.—*Improvement in Relay Magnets.*—Patent dated September 10, 1861.—Patented in Saxony, August 23, 1860.—This magnet is made in the form shown by the engraving, and consists of two or more angles of sheet iron which fit into each other, and are separated by paper or some other non-conductor. Between the two angles lies a plate of sheet iron with incisions, and also a plate in the interior angle. Around this system of angles and plates are wound the coils of silver-covered copper wire in regular layers.

Claim.—Constructing the relay magnet of several plates of angle iron substantially in the form set forth.

No. 33,255.—SYLVESTER MARSH, of West Roxbury, Mass.—*Improvement in Locomotive Engines for Ascending Inclined Planes.*—Patent dated September 10, 1861.—On the driving shaft is a pinion that engages with a large gear wheel attached to the axle of the rear running wheels. A gear on the same axle works into geared racks, on a central rail. The driving shaft is actuated by a connecting rod attached to an eccentric. The gear on the axle is prevented from being lifted out of the geared rack of the central rail by means of friction wheels attached to two spring plates which clasp the central rail.

Claim.—First, the general arrangement of devices described for driving locomotives on inclined planes of a steep grade, the same consisting of the eccentric *h*, attached to the connecting rod of the engine, the pinion *m*, and gears *n* and *n'*, in combination with a toothed central rail, as set forth.

Second, in combination with the central rail, constructed with flanges as described, the travelling friction rollers and the spring plates, arranged in relation to the devices operating them in the manner and for the purpose set forth.

No. 33,256.—HENRY D. MARTIN, of Ypsilanti, Mich.—*Improvement in Ploughs.*—Patent dated September 10, 1861.—In the rear of the share is arranged a revolving mould-board with three or more concave or spiral faces, and journalled in an oblique position. Projecting backward from the standard are flanges for conducting the furrow slice to the revolving mould-board.

Claim.—The combination of the share A, coulter G, standard J, flanges H and I, and revolving mould-board F, arranged and operating in the manner and for the purposes shown and explained.

No. 33,257.—SETH H. MEAD, of St. Andrew's, N. Y.—*Improved Mode of Separating Gold from Earth, &c.*—Patent dated September 10, 1861.—Within a trough secured to a frame is journalled a cylinder provided with an endless screw over its whole length, and made conical at one end, which conical part has an increased pitch to facilitate the ejection of all foreign matter floating upon the mercury in the trough.

Claim.—First, the cylinder, in combination with an endless screw, as described, the screw to have an increased pitch toward and on the conical part of the cylinder, for the purpose set forth.

Second, making the thread of the screw with an open space next the cylinder for the purpose of facilitating the free circulation of the water above the mercury, as described.

No. 33,258.—CHARLES P. MILLER, of Philadelphia, Pa.—*Improvement in Gas-Burners.*—Patent dated September 10, 1861.—This invention is explained by the claim.

Claim.—The plate *b*, combined with a gas-burner and arranged on the same, in respect to the flame, as set forth, so that the gas will impinge against one side of the said plate and be spread outward by the latter in a thin sheet, while the opposite side is exposed to the air, for the purpose specified.

No. 33,259.—JOHN MILLER and WM. KETTING, of Jersey City, N. J.—*Improvement in Railroad Car Ventilators.*—Patent dated September 10, 1861.—Connected to an annular ring or plate secured in the side of the car is a drum or hollow cylinder, the outer end of which is

of double-bevelled form, having two inclined surfaces. These surfaces are provided each with a door or flap, the one opening outward and the other inward, so that as the car moves along the fresh air enters and the foul air passes out from the car.

Claim.—The combination of the reversible drum B with the flaps D D′, when the latter are arranged as shown, to admit when open, and by the same ventilator, of the escape of the foul air from the car and the admission of fresh air therein, substantially as described.

No. 33,260.—WILLIAM MOLLER, of New York, N. Y.—*Improved Machine for Making Block Sugar.*—Patent dated September 10, 1861.—This invention will be understood from the claim.

Claim.—First, the arrangement of two rollers running parallel to each other, and provided with circular knives, cutters, or saws, placed directly opposite to each other, for the purpose of cutting parallel grooves in both sides of a slab of sugar simultaneously, in the manner and for the purpose described.

Second, the arrangement of the circular turning plate H between two sets of rollers provided with circular knives or saws, as described, operating so as to turn the slabs of sugar one-quarter of a circle round, in the manner and for the purpose substantially as described and set forth.

No. 33,261.—WILLIAM MOLLER, of New York, N. Y.—*Improved Machine for Dissolving Raw Sugar.*—Patent dated September 10, 1861.—This apparatus consists of a circular vessel, in the bottom of which are secured pins. In the centre of the vessel is an upright shaft, having attached to its lower end arms provided on their under sides with projections, which pass between the pins on the bottom of the vessel. At one side of the vessel is a pipe of cold water, and opposite the same is arranged a channel, covered on one side with a sieve, for the purpose of allowing the water and dissolved sugar to pass off from the vessel.

Claim.—The arrangement of revolving agitating arms or wheels in a vessel provided with a channel running nearly from top to bottom, and covered with a sieve or grating, the whole being combined for the purpose of dissolving raw sugar in cold water in the manner substantially as described.

No. 33,262.—S. W. MUDGE, of Rome, N. Y.—*Improved Churn.*—Patent dated September 10, 1861.—This invention consists in the use of a rotating dasher, formed of a horizontal bar attached to the lower end of the shaft, and provided near its ends with two uprights of lozenge form, in connexion with ribs having concave sides and attached to the inner side of the case.

Claim.—The arrangement of the dasher-bar *d*, uprights *e e f*, recesses *g*, and lateral projections *h h*, with the double concave ribs and case A, as and for the purpose shown and described.

No. 33,263.—WORDEN P. PENN, of Belleville, Ill.—*Improvement in Harvesters.*—Patent dated September 10, 1861.—This machine consists of a jointed frame, which may be tilted by a lever, in connexion with a caster roller, to raise the sickle to any required height; and an independent frame, carrying the sickles, fingers and platform, that is jointed to the main frame in such a manner that it may be rigidly connected therewith, or left to work loosely on the joint, to conform to the inequalities of the ground, at any height that may be regulated by the tilting of the frame.

Claim.—First, the combination of the jointed frame by which the sickles may be elevated, with the means for counteracting the angularity that would otherwise affect the operation of the sickle, and with a finger-bar that may be either flexible or rigid, the whole constructed and arranged in the manner described.

Second, connecting the finger-bar to the frame by means of the hinge-joint and the upright, in the manner described, so that the connexion with the frame may be made either flexible or rigid, as specified.

No. 33,264.—SAMUEL P. POPE, of Burlington, N. Y.—*Improvement in Machines for Trimming Leather.*—Patent dated September 10, 1861.—This invention relates to a machine for reducing harness traces, belt leather, and other similar objects to a proper size or form by means of adjustable plates and obliquely-set knives.

Claim.—The combination of the stationary side-plate B, adjustable side-plate B′, horizontal plates C, horizontal set screws D D′, straight-edged knives F and G, set obliquely, and spring E, all constructed, arranged, and operating in the manner and for the purposes set forth.

No. 33,265.—R. H. C. PRESTON, of Manlinus, N. Y.—*Improvement in Guard-Fingers for Harvesters.*—Patent dated September 10, 1861.—On the face of each finger, and in a recess or rebate which receives the plate, are cast two nipples, and in the cap of the finger, directly over each nipple or pin, there is a hole sufficiently large to allow a punch to pass through them to rest on the nipples and rivet or head the same, by which means the plate is secured to the finger and prevented from working loose.

Claim.—First, the securing of the plate B to the face of the guard-finger A by means of the nipples or pins *c c*, cast with the finger, and passing through holes in the plate and headed by

means of a punch passed through holes *e e* in the cap, directly over the pins or nipples, substantially as described.

Second, fitting the guard-fingers snugly to the finger-bar by means of soft metal bearing surfaces *a**, the latter being run in a molten state into cavities or cups made in the parts *f* and lips *h* of the guard-fingers, and secured therein by the headed nipples or pins *g g*, substantially as described.

No. 33,266.—AUGUSTUS REEVE, of Allowaystown, N. J.—*Improved Bolt for Shutters and Blinds.*—Patent dated September 10, 1861.—This invention relates to a shutter-bolt for securing the shutters in a partially open or lowered state by means of devices designated in the claim.

Claim.—First, the employment or use of the plate or flanch *g* placed above the bolt D, either directly over the recess *e*, or situated nearer or further from the end of the plate on which the socket C rests, for the purpose of preventing the disengagement or releasing of the bolt from the socket C when the lip *a* of the bolt is in the recess *c*, when the shutters are in a partially open or bowed state, as set forth.

Second, the employment or use of the button E applied or attached to the bolt D, in combination with the taper-plates *d d* attached to the socket B, in the relation with each other as shown, for the purpose specified.

Third, the employment or use of the recess *e* formed by a semicircular rim on a ledge *f*, or extension of the socket C under the plate or flanch *g*, for the purpose of receiving and securing the lip *a* of the bolt when it is in a partially open or bowed state, for the purpose specified.

No. 33,267.—EDWARD SMITH and SIDNEY COWLES, of Northford, Conn.—*Improvement in Horse Rakes.*—Patent dated September 10, 1861.—This invention consists in the employment of a curved lever working upon and over a pulley on an arm attached to the axletree, which lever is operated by the driver, for the purpose of holding and depressing the rake-teeth in contact with the surface of the ground. By means of a bell crank lever, in connexion with a ratchet wheel and pawl and levers, the rake-teeth may be held in an elevated position when the machine is moved from place to place.

Claim.—First, the combination of the curved lever E, roller F, and arm G with the axletree A, for the purpose of depressing and holding the rake-teeth D in contact with the surface of the ground, as set forth.

Second, the combination of the bell crank lever J with the levers K and H, pawl L, and ratchet wheel I, for the purpose of elevating the rake-teeth from the ground and for holding them when so elevated, as described.

No. 33,268.—JASPER SNELL and J. R. DEIHN, of Pottsville, Pa.—*Improved Coal Screen.*—Patent dated September 10, 1861.—This invention consists in constructing a screen in the form of a cylinder composed of rings having spaces between them, in which fit the teeth of a comb to prevent the spaces from being choked or filled up by the refuse which passes out.

Claim.—First, the revolving cylinder made of sections or rings A, with spaces *b* between said rings, operating as set forth and for the purpose described.

Second, the comb B with teeth *c* operating in the continuous spaces *b* between the rings A of the revolving cylinder, for the purposes set forth.

No. 33,269.—J. E. SMITH, of Poughkeepsie, N. Y.—*Improvement in Electro-Magnetic Telegraphs.*—Patent dated September 10, 1861.—This invention consists in the application to the local circuit of a supplementary conductor, composed wholly or in part of some substance of feeble conducting power, as water, through which but a very small portion of the local battery current will pass when the local circuit is closed, but through which the induced magneto-electric current will pass rather than dart through the air between the relay points when the said circuit is open.

Claim.—A supplementary conductor applied to the local circuit, to operate substantially as and for the purpose specified.

No. 33,270.—NATHAN W. SPAULDING, of Sacramento, Cal.—*Improvements in Saws.*—Patent dated September 10, 1861.—The nature of this invention is set forth in the claim.

Claim.—The application and use of circular instead of angular lines in setting teeth or other pieces in saw-plates and saws, which will prevent the plate or saw from splitting, cracking or breaking at the corners where pressure and force usually apply, thereby distributing the pressure or force equally on the plate instead of it being limited to one spot, as would be the case where angular lines are used, using therefor the saw-plate, teeth, and other pieces, as described, which will produce the intended effect.

No. 33,271.—JARVIS H. STEDMAN, of Randolph, Vt.—*Improved Clothes-Wringers.*—Patent dated September 10, 1861.—This invention consists in the arrangement of double-hinged compound levers connected together and operated by an adjustable cross-lever, and secured by a catch, the levers forming the journal boxes for rollers or cylinders, so that the

space between them may be opened more or less, as required for the necessary amount of pressure retained.

Claim.—The arrangement of the double-hinged compound levers, the same being connected together by a rod or bar, and operated by an adjustable cross-lever and catch acting upon cylinders or rollers, in the manner and for the purpose specified.

No. 33,272.—ABRAM VAN ORDER, of Ithaca, N. Y.—*Improved Construction of Canal Boats.*—Patent dated September 10, 1861.—This invention is explained by the claim and engraving.

Claim.—The described layers of wood placed one above the other, making the shell or sides and ends of the boat, the described method of spiking or bolting the said layers together, and the cross-rod bracing connecting the bilge timbers with the gunwale timbers, when used in combination with each other; and the just-named combination, when further combined with the water stops, lap batting, and double-dovetailed floor and deck beams, as described.

No. 33,273.—O. O. VAN ORMAN, of Harrisville, Ohio, assignor to Himself and H. F. PALMER, of the same place.—*Improvement in Railroad Car Wheels.*—Patent dated September 10, 1861.—The sleeve is secured to the axle by a screw and turns with it, revolving the friction rollers, serving the purpose of a bearing for the rollers and holding the axletree and wheel together.

Claim.—The sleeve D, in combination with the axle C, cap B, chamber H, and rollers E, when constructed, arranged, and operated, as and for the purpose set forth.

No. 33,274.—A. S. WALBRIDGE, of Malone, N. Y.—*Improvement in Cut-off Apparatus for Steam Engines.*—Patent dated September 10, 1861.—The fulcrum wedge consists of a plate tapering on both sides and working transversely within the steam-chest through a stuffing-box in one or in each side thereof. The edges of this wedge serve as fulcra against which the levers connected with the main valve are brought by the action of the valve, so that by the continued movement of the latter the said levers may be made to give the cutting-off movement to the cut-off valves. By shifting the fulcrum wedge the fulcra of the levers are shifted, and the lever caused to operate on the cut-off valves earlier or later in the stroke of the piston.

Claim.—The arrangement and combination of the fulcrum wedge L, levers D D', and friction bars E, substantially as specified.

No. 33,275.—S. R. WARNER, of New Haven, Conn.—*Improved Pipe Joint.*—Patent dated September 10, 1861.—This invention consists in forming the flanges which are used in uniting the sections of the pipe by bending up the pipe metal, so that the flanges will be produced from a portion of the pipe instead of making the flanges of separate rings of metal soldered to the pipes, as usual.

Claim.—The manner described and shown of forming a thin sheet metal pipe joint, to wit: producing the flanges *b* and *c* by bending and swaging up the metal of the pipes, substantially as and for the purposes described.

No. 33,276.—ALBERT H. WRIGHT, of New York, N. Y.—*Improvement in Rice-cleaning Machines.*—Patent dated September 10, 1861.—This invention consists in curving and extending upward the rear end of the cylinder or case containing the screw, and surrounding the extended portion with a corresponding telescopic sliding cylinder for increasing or diminishing the length, in such a manner as to enable the weight and resistance of the rice forced through the said upright portion by the screw to produce the required degree of friction to clean the rice. The hopper is divided into two compartments, in which the given quantity of rice is retained a sufficient length of time to cool, after passing through the cylinders.

Claim.—First, combining with the horizontal cylinder A, containing the revolving screw D, the slightly inclined or upright conduit branch pipe or cylinder E, and surrounding telescopic sliding cylinder G, for increasing and diminishing its length, and to which is attached the inclined trough I, leading to the hopper B, said conduit branch being secured at its lower curved end to the said cylinder A, in such a manner as to form a continuation of the same, substantially in the manner and for the purpose fully set forth.

Second, dividing the hopper B into two compartments B' B2, having a slide S at the bottom of each, and employing in connexion therewith the movable trough I, for enabling the given quantity of rice introduced into one of the said compartments to remain at rest, immediately after passing through the cylinders A E G, sufficiently long to cool, as before described.

No. 33,277.—ALBERT BRIDGES, of New York, N. Y., assignor to Himself and ALFRED BRIDGES, of the same place.—*Improvement in Springs.*—Patent dated September 10, 1861.—This invention is explained by the claim.

Claim.—The novel bearing spring described, as a new article of manufacture, the same being composed of detachable strips, wires, rods, or any other form of springs E, arranged in a circular or polygonal series uniformly distributed around a central guide or slide A', so as to expand equally in all directions by the bending of the same, and each being so nearly

straight when the spring is unloaded that the resistance of the spring to compression shall increase but slightly as the load is increased, the entire structure possessing the qualities and advantages set forth.

Also, the mounting of a rubber spring G within a circular or polygonal series of metallic springs E, so as to act in combination therewith and to contribute to the tension and modify the range of the spring, substantially in the manner specified.

No. 33,278.—RILEY BURDITT, of Brattleboro', Vt., assignor to JACOB ESTY and HASTEL P. GREEN, of the same place.—*Improvement in Melodeons.*—Patent dated September 10, 1861.—The object of this invention is to introduce in melodeons a sub-bass in such a manner as not to increase the size of the case. Each of the low notes to which the sub-bass is to be applied is supplied with another socket and reed of a lower octave. These additional reeds are located in the rear of the instrument, and the valves are applied directly to the orifice of the socket.

Claim.—First, the placing the socket-board for the sub-bass notes in the rear of the bellows and in a vertical position.

Second, applying the valves of the sub-bass notes to the upper edge of the socket-board, so that each valve stops a socket at the upper orifice thereof.

Third, elongating the keys by extension rods to reach the sub-bass sockets, as above specified.

Fourth, fastening the extension rods to the keys by means of screws and dowels, the whole combined and operating in the manner and for the purpose specified.

No. 33,279.—ISAAC I. COLE, of New York, N. Y., assignor to S. B. WILSON, of the same place.—*Improved Machine for Cutting Veneers.*—Patent dated September 10, 1861.—The bolt is attached to a cross-bar extending nearly the whole width of the frame, and has a vibratory movement given to it by means of connecting rods and cranks. At the lower part of the frame is a shaft, upon which are two eccentrics fitted in the lower ends of arms, one at each side of the frame. The upper part of each arm is connected by a joint to a bar secured each at their outer ends to a metallic block. By turning the shaft and eccentrics the cutter may be adjusted more or less obliquely with the bolt, as occasion may require.

Claim.—Operating the cutter-block by the eccentric adjustment L L M M N N, in combination with the two-fold feed motions of the bolt H, in the manner described.

No. 33,280.—RUSEL HAZARD, of New London, O., assignor to Himself and ALEXANDER PORTER, of the same place.—*Improvement in Hames.*—Patent dated September 10, 1861.—This invention consists in the use of movable clasps provided with loops to encircle the hames, and with pins or tongues to engage in perforations in plates secured to the outer faces of the hames, the object being to adapt the hames to collars or the necks of horses of different sizes.

Claim.—The combination of the perforated face-plates A', tongued clasps B *b*, and oblique loops B', all constructed, arranged, and employed in the manner and for the purpose shown and explained.

No. 33,281.—LEWIS JENNINGS, of Brooklyn, N. Y., assignor to Himself, R. DICKINSON, and JOS. C. FULLER, of the same place.—*Improved Filtering Cup.*—Patent dated September 10, 1861.—This invention is explained by the claim.

Claim.—Applying a filter to or near the bottom of any ordinary drinking cup, and attaching a tube to the cup and filter in such a way that the act of drinking through the tube shall effect the filtering of the liquid, substantially as described.

No. 33,282.—GEORGE H. ROGERS, of Baltimore, Md., assignor to Himself and JOHN ROGERS, of the same place.—*Improvement in Hydrants.*—Patent dated September 10, 1861.—Within a metal casing inserted in the end of a box or pipe is arranged a vertical valve-stem or spindle, provided with a conical plug near its lower end fitting into the induction port at the bottom of the casing. Surrounding the valve-spindle is a guide-tube, the head of which rests upon a washer at the top of the casing, to prevent the escape of water. A flanged ring fits around the guide-tube and rests upon shoulders on the casing, and between the flanged ring and a retaining nut at the top of the spindle is a spiral spring encircling the guide-tube, by means of which the valve is kept closed.

Claim.—The combination of the valve-spindle C and guide-tube D, the spring F, and the flanged ring E, with the casing A, when the whole are constructed and arranged as described for the purpose set forth.

No. 33,283.—COLEMAN SELLERS, of Philadelphia, Pa., assignor to WM. SELLERS & Co., of the same place.—*Improvement in the Mode of Transmitting Motion.*—Patent dated September 10, 1861.—This invention consists in the employment of disc-wheels which transmit motion by frictional contact upon their sides, the frictional surfaces being so arranged as to insure contact only upon the line of centres of any two wheels, the requisite amount of adhesion on the contact surfaces of the driven wheels or discs being obtained by clamping together the discs between which the driven discs are placed.

Claim.—First, the use of clamping wheels, or their equivalents, to transmit motion when said wheels are so arranged as to produce the necessary pressure upon the driving surfaces by a movement at right angles to their plane of motion, substantially in the manner and for the purpose specified.

Second, the use of clamping wheels, or their equivalents, when they are so arranged that the relative position of the axis of one or more of such wheels may be changed, so as to produce a change of velocity, substantially in the manner specified.

No. 33,284.—JULIUS WRIGHT, of Bristol, Conn., assignor to Himself and JOSEPH SIGOURNEY, of the same place.—*Improvement in Whirling-jacks for Toys, &c.*—Patent dated September 10, 1861.—This invention consists in the combination of a spring with the spindle and cylinder case of the top, in connexion with a pawl and ratchet, so that by winding up the spring and releasing it a motion is imparted to the spindle and top, thus dispensing with the use of a cord.

Claim.—The spindle *c*, spring *h*, ratchet *d*, and pawl *e*, combined substantially as and for the purpose described.

Also, the whirling spindle *c*, in combination with a toy stem *j*, substantially as and for the purpose described.

No. 33,285.—NATHAN AMES, of Saugus Centre, Mass.—*Improved Combination of Knife, Fork, and Spoon.*—Patent dated September 17, 1861.—This invention consists in constructing a knife blade with a fork, spoon, or forked spoon continuation on its back, or at such an angle with the cutting edge that it may be used for conveying food to the mouth.

Claim.—Constructing a knife blade with a spoon, fork, or forked spoon C, projecting above or beyond the general line or curve of the back of the knife, and at any desirable angle with the edge, substantially as and for the purposes described.

No. 33,286.—ABEL ASHOLD, of Garrettsville, O.—*Improvement in Camp Stools.*—Patent dated September 17, 1861.—This stool is composed of four legs, crossing each other, and fastened together by screws attached to the inner legs, and passing through slots formed in the outer legs. The seat is so attached as to form a head rest when the stool is folded up.

Claim.—The seat A, pivots *a d*, legs B D, slots *e e*, and screws *b*, combined, arranged, and operating in the manner described.

No. 33,287.—GEORGE R. BARKER, of Germantown, Pa.—*Improvement in Horse Cars for Railroads.*—Patent dated September 17, 1861.—This invention consists in an arrangement of devices in connexion with a car by means of which, at the pleasure of the driver, the power derived from the momentum of the car, in arresting its progress, is caused to be accumulated or retained, and subsequently expended in starting it.

Claim.—First, the combination and arrangement of the operating bar G with its arms F F and bridle E E, the double clutch C D D′, on the axle, the chains P″ P‴, the sliding block L, spring H, the rack M, and pawl N′, the operating bar S′, with its foot-lever S and arm S″, the chains P P′, and pulleys O O′, the same being constructed and applied to operate together, substantially in the manner described and for the purpose set forth.

Second, the described arrangement of the adjustable pulleys R R′ and ropes R″ R‴, in combination with the clutch cylinders D D′, as described and for the purposes set forth.

Third, the arrangement of the conical block T′, or its equivalent, so as to operate, in combination with the block L, upon the arm U, substantially in the manner described, and for the purpose specified.

No. 33,288.—LEVI A. BEARDSLEY, of South Edmeston, N. Y.—*Improved Hay Elevating Fork.*—Patent dated September 17, 1861.—This invention consists in connecting the lower end of the lever, which is fitted in a socket attached to the fall rope, with a latch, by means of a spring, in such a manner that the tines are retained in a closed state while the implement is hoisted, and by means of a cord, the lower end of the lever is drawn out, when the tines become distended, and the load will drop.

Claim.—The connecting of the lower end of the lever E with the latch G by means of a spring F, substantially as shown, making the same self-adjusting, and preventing the casual detachment of the latch from the lever, as described.

No. 33 289.—ORSON P. BEARDSLEY, of McDonough, N. Y.—*Improvement in Process of Refining Maple Sugar.*—Patent dated September 17, 1861.—This invention is explained by the claim.

Claim.—The mode described of extracting the magnesia and its adherent impurities by straining it through a thick cloth after or when the sugar has been so far concentrated as to cause the magnesia to granulate or assume a distinct form, in which it can be thus removed.

No. 33,290.—NOAH BENNETT, of Sherman, N. Y.—*Improvement in Butter-Workers.*—Patent dated September 17, 1861.—The bearings of the fluted roller are placed in the central pivot or shaft, and the dish is driven by a single pinion on the shaft of the roller, connecting

with a rack on the dish. This pinion is made adjustable, in or out of gear, with the rack, so that the dish may be readily rotated in an opposite direction by handles on the sides. The dish is provided with an extension segment, or guard, which raises the side for about one-fourth of its circumference, so as to place a mass of the butter in advance of the roller. The buttermilk is discharged through a central outlet around the main shaft, and is caught in an annular trough below the dish.

Claim.—The combined arrangement of dish E with handles *h h*, or their equivalents, and the pinion G, adjustable on the shaft of the fluted roller D, so that the butter may at intervals be readily gathered together for renewed working, substantially as specified.

In combination with the above the hinged segment guard H, arranged and operating as set forth.

Also, the combination of the central standard pivot B, outlets *e e*, and annular trough *m*, close around said pivot, substantially as and for the purpose specified.

No. 33,291.—HENRY A. BILLINGS, of Providence, R. I.—*Improvement in Power Moulding Machines.*—Patent dated September 17, 1861.—This invention consists in the employment of an endless traveller extending the whole length of the machine, upon which traveller is placed the flask. Upon the frame work is mounted a rocker, the arms of which support a sieve. The flask is carried by the traveller under the sieve, and filled with sand, and as it proceeds is brought consecutively under a fluted and a cylindrical roller, by which means the sand is laid smooth and compressed in the flasks.

Claim.—The combination of the endless traveller B B, the sieve C V, or their equivalents, with one or more compressing cylinders D or E, such combination operating substantially as described, for the purposes specified.

No. 33,292.—J. B. BLANCHARD, of Sacramento, Cal.—*Improvement in Anti-Friction Boxes for Carriage Wheels.*—Patent dated September 17, 1861.—At the inner end of the box of the wheel hub, is a ledge or shoulder which extends entirely around the box, and serves as a bearing for the inner ends of the rollers, a recess being formed by the said shoulder to receive an annular plate, in which the rear journals of the rollers are fitted. On the front of the box is screwed a cap, provided with a shoulder, serving as a bearing for the outer ends of the rollers, which shoulder also receives an annular plate, in which the outer journals of the rollers fit. The two plates are connected together by screw rods,

Claim.—Securing the rollers B in the box A, by means of the cap C screwed on the outer end of the box A, and provided with the ledge or shoulder *f* and recess *g*, in connexion with the ledge or shoulder *h* at the inner or back end of the box A, and the annular plates *d h* and screw rods D, substantially as described.

No. 33,293.—ABIJAH E. and JOSIAH B. BLOOD, of Lynn, Mass.—*Improved Flour Sifter.*—Patent dated September 17, 1861.—This invention consists of a semi-cylindrical box or case, adapted to rest upon the top of a suitable box. The lower part of the semi-cylindrical case forms a sieve, and within the same are arranged scrapers, which are moved across the sieve by means of levers attached to a handle, thus agitating and forcing the contents of the box through the sieve.

Claim.—The combination and arrangement of the cylindrical sieve, with scrapers M N O and levers H I, all substantially as and for the purpose set forth.

No. 33,294.—GILBERT M. COLE, of Folsom City, Cal.—*Improvement in Mode of Turning Locomotives.*—Patent dated September 17, 1861.—This invention consists in attaching to the turn-table a small pair of steam cylinders and the accompanying steam chests, whose connecting rods are made to operate a crank-shaft in connexion with the cog-wheels, so that the steam from the locomotive may be used as a power to operate the turn-table.

Claim.—The application of steam from the locomotive, in the manner described, to do the work of turning turn-tables, thereby saving a vast amount of labor and time.

Also, in this connexion, the combination of the great segment cog-wheel and the track upon which the wheels of the turn-table roll, by casting the said track with the cogs on the edge of it, thereby dispensing with one heavy set of castings and fastenings, all substantially in the manner and for the purpose set forth.

No. 33,295.—WILLIAM H. CONWAY, of Harrison, Md.—*Improved Gaff for Vessels' Sails.*—Patent dated September 17, 1861.—The nature and object of this invention is explained by the claim.

Claim.—First, dividing the gaff into two parts, called the jaws and the peak, and uniting or connecting them together by means of a hinge, whereby the chafing or abrasion of the mast is prevented and the strain upon the canvas relieved in the striking of the sail, substantially as described.

Second, in combination with a gaff so divided and hinged, making the jaws thereof out of timber, which presents a naturally-formed fork or crotch, as and for the purposes described.

No. 33,296.—ASA L. DARBY, of White Creek, N. Y.—*Improvement in Mowing Machines.*—Patent dated September 17, 1861.—This invention consists in arranging the shaft carrying

the crank which operates the cutters so as to run lengthwise through the centre of the frame. The cutter-bar is arranged to turn over when required upon a shaft or pivot placed upon the front beam of the frame, below the operating shaft, by which means the machine may be returned along the line of the previously cut swarth, instead of cutting continuously around a body of grass or grain.

Claim.—The arrangement of the cutter-bar A in reference to the crank operating the cutters, so that the axis of the one may be in such position towards the other that the bar may be swung over from its working position on one side of the frame F to a similar position on the other, and permit the crank to operate the cutters equally well on either side, substantially as set forth.

No. 33,297.—AUGUSTUS B. DAVIS, of Philadelphia, Pa.—*Improvement in Platform Scales.*—Patent dated September 17, 1861.—This invention consists in an arrangement of levers, by a simple adjustment of which, a platform of extended length may be substituted for a shorter platform, without the necessity of a general dismemberment and reconstruction.

Claim.—The levers F F and G G on the adjustable beams C and C′, in combination with the diagonal levers H H and the adjustable frame which carries the graduated scale beam or beams, the whole being arranged substantially as and for the purpose set forth.

No. 33,298.—JOHN DOBBS, of Albany, N. Y.—*Improvement in Paper-Ruling Machines.*—Patent dated September 17, 1861.—The nature and object of this invention will be understood from the claim.

Claim.—In ruling machines, where it is desired to rule lines shorter than those starting from the head of the work, the employment of thin slips of material of various lengths, depending upon the length of the lines to be ruled, the said slips being attached to and adjustable upon a movable bar connected with the beam carrying the pens, substantially as set forth and for the purposes declared in this specification.

No. 33,299.—BENJAMIN DOUGLAS, of Middletown, Conn.—*Improvement in Pumps.*—Patent dated September 17, 1861.—This invention consists in attaching a hand pump to a stand or rest, by which it is supported, and providing the said stand with a broad and spreading foot-piece, by which it may be held in position while in use.

Claim.—A pump rest, having a seat or support for the induction valve and pipe in its upper end, and a foot or support, substantially as set forth, at its lower end, and in combination therewith, constructing the foot as described, so that the pump may be held in place by permanent means, or held temporarily in any desired location by the foot of the operator.

No. 33,300.—JOSEPH S. ELLIOTT, of Philadelphia, Pa.—*Improvement in Gas Meters.*—Patent dated September 17, 1861.—This invention consists in constructing and arranging both the stop and gear teeth of the driven teeth to project perpendicularly around on one side of the disc of each driven wheel, and a driving stud or tooth on the opposite side of the disc of each of the driving wheels, together with a recess in the edge of the latter, by means of which the driven wheel is moved around until the succeeding pair of stop teeth or studs thereon come against the edge of the driver, and is thereby held locked or stopped, whilst the driver is free therefrom to rotate once around.

Claim.—The construction and arrangement described of the concentric rings of perpendicular, cylindrical stop teeth or studs *h h*, and the perpendicular gear teeth *i i* on the driven wheels, together with the recesses *k* and perpendicular driving studs *l* in the drivers, the whole operating together in the manner described and set forth, and for the purpose specified.

Also, in combination with the subject matter of the above claim, arranging the numeral discs *a d e f* upon the shafts of their respective wheels A D E F, so as to operate behind the perforated front plate G of the frame, as described and set forth, and for the purpose specified.

No. 33,301.—VICTOR FOUCHIER, of Paris, France.—*Improvement in Mills for Grinding Grain.*—Patent dated September 17, 1861.—Patented in England March 24, 1851.—This invention consists in a method of dressing the millstone, or the arrangement of grooves for each stone, for a proper understanding of which reference must be had to the specification and drawings.

Claim.—The described arrangement of principal intermediate, oblique and cutting, and discharging furrows D E, F G, J K, L M, H I, and N O, of each of the angular sections arranged on the grinding surface of the millstone, as described.

No. 33,302.—F. H. FURNISS, of Cleveland, O.—*Improvement in Railroad Car Ventilators.*—Patent dated September 17, 1861.—This invention consists in arranging within the flaring mouth of a case, a wind-wheel connected with a shaft. Upon the shaft are secured a series of radiating arms and a perforated disc, which revolves in a water chamber as the car moves along, so that the particles of dust coming in contact with the arms will adhere to the same, and the air enter the car in a cool and pure state.

Claim.—The fan-wheel C, revolving the radiating arms *a*, when combined with the disc *b* and water chamber, as arranged and operating substantially as described.

Also the gauge valve K and flue H, in combination with the water chamber and revolving arms *a* and disc *b*, in the manner and for the purpose set forth.

No. 33,303.—DENNIS C. GATELY, of Newtown, Conn.—*Improvement in the Process of Vulcanizing or Curing India-rubber or Gutta-percha.*—Patent dated September 17, 1861.—This invention consists in subjecting the India-rubber or gutta-percha, after it has been combined in the usual manner with sulphur and other ingredients employed in vulcanization, to the action of superheated steam, either applied directly in boilers or applied by thus heating cylinders or hollow rolls, or by heating steam pipes which convey the steam to suitable ovens.

Claim.—The process described of curing or vulcanizing India-rubber or gutta-percha, the same consisting in subjecting the articles to be cured or vulcanized to the action, whether direct or otherwise, of superheated steam, substantially as set forth.

No. 33,304.—JOHN GAULT, of Boston, Mass.—*Improved combination of Eraser and Eraser Sharpener.*—Patent dated September 16, 1861.—This invention consists in imbedding a piece of whetstone in one side of an ordinary piece of India-rubber, and attaching to the other side a piece of leather suitable for sharpening a knife.

Claim.—The combination of an India-rubber pencil eraser with a whetstone and strap, in the manner and for the purposes described.

No. 33,305.—MOSES G. HUBBARD, of Syracuse, N. Y.—*Improvement in Driving Power for Spinners.*—Patent dated September 17, 1861.—This invention consists in the employment of a driving wheel composed of two driving rims pressed together by a yielding force. Between these two driving rims on one side is a pair of rollers, and between the said rims on the other side is placed the driving roller and the end of the shaft to be speeded. The speeded shaft is sustained in boxes, and its end being pressed between the driving surfaces of the wheel, it is revolved with a degree of speed proportioned to its size, and with a degree of power proportioned to the amount of force with which the driving rims are pressed together.

Claim.—Supporting the end of the speeded shaft in the stationary journal-box H, and driving it by means of the driving rims, substantially as and for the purpose set forth.

No. 33,306.—G. JASSATH, of New York, N. Y.—*Improvement of Cartridge Box.*—Patent dated September 17, 1861.—This invention consists of a box provided with a lid and inserted within a leather case, said box having a series of inclined tubes to receive the cartridges.

Claim.—A cartridge box formed of a box A, provided with a series of inclined tubes *b*, and fitted within an outer or external box C, all arranged substantially as shown and described.

No. 33,307.—MARCUS LANE, of Washington, D. C.—*Improvement in Shoemakers' Measures.*—Patent dated September 17, 1861.—The nature and object of this invention are explained by the claim.

Claim.—First, a machine for taking and determining simultaneously the measures of the foot, containing the following devices, to wit: First, means for taking the measure of the length of the foot; second, means for taking the various measures desired of the transverse span of the foot; and, third, means for retaining the measuring indices or devices in position, so that they shall allow the fitting of a suitable last thereto.

Second, in an organized machine for so taking the measure of the foot of a person, the use of flexible, non-elastic straps or tapes as contradistinguished from such elastic limber straps or tapes as are in common use for measuring the foot.

Third, the tapes *n*, in combination with the clasps O, as described by means of which the holes in the tapes perform the double function of retaining the measure when taken at the same time they indicate the fractions of an inch of the measure.

Fourth, in an organized machine, which is capable of determining the circumferential span as well as the longitudinal measure of the foot, an instep measuring tape which is capable of accommodating itself to the varying heights of insteps to be measured.

Fifth, the instep measuring strap or tape *n* and slide *t*, in combination with the base plate *a*, by means of which the instep tape may be slid forward to permit the withdrawal of the foot, or insertion or withdrawal of the last.

No. 33,308.—RICHARD LORD, of Pawtucket, Mass.—*Improvement in Air Engines.*—Patent dated September 17, 1861.—This invention consists of a piston composed of a grate upon which a fire is to be lighted, so arranged as to move up and down within a cylinder which is furnished with valves. The valves are so operated that during the motion of the piston in one direction, the admission of air to support combustion, and the escape of the gaseous products of combustion, are freely permitted; and, during the movement of the piston in the opposite direction, a portion of cold air from one side of the grate is caused to pass through the fire and be heated, and by its consequent expansion force another portion of the air from the same side of the grate into the reservoir.

Claim.—First, the piston constructed as a fire-grate, applied to the cylinder in combination with valves B C or their equivalents, and operating substantially as herein specified.

Second, the combination of the hollow valve B and the hollow casing B′, arranged in the manner and for the purpose set forth.

No. 33,309.—H. G. LUDLOW, 2d, of Waterford, N. Y.—*Improvement in Sliding Stop-Valves.*—Patent dated September 17, 1861.—This invention consists in so applying a wedge or wedges, in combination with a valve known as the "sliding stop-valve," or "sliding gate," as to bring the valve tight against its seat after it has completed its closing movement, but to enable the valve to work free of its seat in its opening and closing movements, for the purpose of preventing friction between the face of the valve and its seat, and thus obviating the wear of the face and seat and the necessity of regrinding.

Claim.—Combining the valve with its stem by means of a wedge-plate C, applied and operating substantially as and for the purpose specified.

No. 33,310.—WILLIAM S. MAYO, of New York, N. Y.—*Improvement in Fence Posts.*—Patent dated September 17, 1861.—This invention is explained by the claim.

Claim.—As an improved article of manufacture a fence post made of clay in an entire piece, and afterwards hardened by burning as explained.

No. 33,311.—JOHN M. OAKLEY, of New York, N. Y.—*Improved Clothes Washing Machine.*—Patent dated September 17, 1861.—This invention consists in the employment of a box provided with swinging arms, which are oscillated by means of a crank and connecting rods. To the end of each arm is attached a plunger, the front surfaces of which are inclined, and formed of a series of slats placed odliquely one above the other. The back of the box is inclined outwardly, and its inner surface corrugated. The motion of the plunger is designed to cause the clothes to turn gradually, so as to constantly present a fresh surface to the action of the plunger and back.

Claim.—The arrangement of the pendulous arms B B and attached slatted plungers E E with the inclined corrugated back *f*, curved bottom *a*, rods C C, double crank C′, all as shown and described for the purpose set forth.

No. 33,312.—S. SARGENT, of Watertown, Mass., assignor to Himself and A. P. KNAPP, of Needham, Mass.—*Improvement in Coal-Oil Lanterns.*—Patent dated September 17, 1861.—Through the base of the lantern body is arranged a rod, so as to admit of the height of the wick being regulated from the outside. In the base flange of the lamp are perforations for the admission of air to the flame. Secured radially to the inside of the periphery of the base are a series of vertical division plates, for the purpose of keeping the draught of air divided and preventing eddies on either side. Extending outwardly from the lamp-burner is a horizontal perforated plate, for the purpose of regulating the supply of air to the flame.

Claim.—The arrangement and combination of the device for enabling the wick to be regulated outside of the lantern, the perforations *i i* in the base flange of the lamp D, the draught collector *u*, division plates N N, perforated regulating plate P, and guard cylinder R, in the manner and for the purpose specified.

No. 33,313.—E. R. STILLWELL, of Dayton, O.—*Improvement in Revolving Cutter Heads for Roughing out Lasts.*—Patent dated September 17, 1861.—This invention consists of a revolving cutter head having cutters arranged on the sides, forming spiral planes from the periphery to the centre, for the purpose of blocking out a last preparatory to its being turned.

Claim.—The combination of the cutters with the revolving head, when said cutters are arranged in a spiral conical form on said head, converging from the periphery of the head to the centre, substantially in the manner and applied to the purpose set forth.

No. 33,314.—P. W. THOMAS, of Levee, Ky.—*Improvement in Tanning.*—Patent dated September 17, 1861.—The materials of which this composition consists are gum catechu, muriate of soda, India kino, carbonate of soda, starch, and biborate of soda, dissolved in water.

Claim.—The tanning solution compounded of the materials described, substantially in the proportions specified.

No. 33,315.—EDWARD BROWN WILSON, of Westminster, England, assignor to WILLIAM BUTCHER, jr., of Sheffield, England.—*Improved Method of Annealing and Swaging Castings.*—Patent dated September 17, 1861.—This invention consists in first casting the articles of iron or steel in ordinary moulds, and then, after having reheated them in a furnace, pressing them in dies of a form corresponding to the exact shape and finish of the completed article, by which process any further manipulation is dispensed with in the finish of the article.

Claim.—The process described of treating articles composed of cast steel or malleable cast iron for the purposes set forth by first casting the articles in suitable moulds, and then, and after having reheated them in a furnace, pressing them in dies or matrices of a shape corresponding to the exact shape and finish of the completed articles.

No. 33,316.—NATHAN AMES, of Saugus Centre, Mass., assignor to J. C. WILDER, of Boston, Mass.—*Improved Strainer for Coffee or Tea Pots.*—Patent dated September 17

1861.—This invention consists of a removable strainer formed of a rubber or elastic tube provided with an end piece of wire gauze or perforated metal, so that it can be readily applied to nozzles of coffee or tea pots of different sizes. Connected with the strainer is a flaring collar, for the purpose of conducting the drippings of the strainer back into the pot.

Claim.—First, a removable strainer consisting of a rubber or elastic tube R, provided with a termination of wire gauze or perforated metal, substantially as described and for the objects specified.

Second, in combination with the strainer S a flaring collar D, substantially as and for the purposes described.

Third, the casing C, in combination with the strainer S, collar D, and elastic tube R, substantially as set forth and for the object specified.

No. 33,317.—FREDERICK CURTIS, of Newton, Mass., assignor to EDWARD H. ASHCROFT and JOHN B. ALLEY, of Lynn, Mass.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated September 17, 1861.—The nature of this invention is mainly explained by the claim. The trigger-guard is made in two parts, which are hinged together, and turn freely on, and are connected with the breech-carrier by a pin or journal. The lower part of the guard is formed with a shoulder, which bears against one part of the guard. When the lower part of the guard is drawn down, its shoulder will remove or hook from a catch, and allow the breech carrier to rotate.

Claim.—First, constructing the breech-pin and breech-carrier of a fire-arm in two parts, and so connecting them together as to be enabled to introduce and withdraw the said breech-pin into and from the bore of the barrel in the line of its axis, substantially in the manner and for the purpose described.

Second, in combination with the breech-carrier and the breech proper, when the two are joined together as described, a spring, so arranged in relation to the said breech as to retain it in the same position with regard to the breech-carrier that it has when it leaves the barrel, so as to establish a yielding connexion of the parts, as set forth.

Third, the peculiar construction of the guard D, and its relation to the catch *f*, the trigger, and the working parts of the gun, substantially as described.

No. 33,318.—R. B. FITTS, of Philadelphia, Pa., assignor to Himself, E. P. THOONBURGH, and WILLIAM STACY, of the same place.—*Improved Feed Bag for Horses and other Animals.*—Patent dated September 17, 1861.—This invention consists of a water-proof flexible receiver or holder, provided with a jointed rim, a drop bail, and a detachable head-stall, so arranged as to be used as a bucket, and admit of being compactly folded up for transportation.

Claim.—The holder or vessel A, the jointed rim B, bail C, strap D, constructed and operating substantially as and for the purpose described.

No. 33,319.—SAMUEL L. FOSTER, of Bristol, Me., assignor to E. W. THOMPSON, of the same place.—*Improved Rudder Case for Navigable Vessels.*—Patent dated September 17, 1861.—This invention relates to the application of a case to the stern post of the vessel, and consists of certain devices to effectually secure the case, and effect the ready centralization of the rudder with respect to the case.

Claim.—The combination and arrangement of the adjustable clamp *e f*, their ring section *h*, and friction rollers *b*, applied to the upper part of the rudder case and stern post, substantially as described.

Also, the combination and arrangement of the wedged collars *d* and inclined bearing pieces *e g* with the clamps and the friction rollers.

Also, the combination and arrangement of the curved wedge I and its grooved socket-piece H with the stern post and rudder case.

No. 33,320.—FRANKLIN L. HOWE, of Woodstock, Vt., assignor to Himself and J. H. MURDOCK, of the same place.—*Improved Stump Extractor.*—Patent dated September 17, 1861.—Secured to a proper framing is a windlass, having at one end a ratchet, engaging with which are two pawls attached to a lever secured to the upper part of the frame. The pawls are connected by chains to the ends of a forked lever, attached to one side of the framing, and are made to act alternately upon the ratchet, either pawl being disengaged from the ratchet by a single adjustment.

Claim.—The arrangement of the forked lever F and chains *b b* with the pawls E E', lever D, and ratchet C, in the manner shown and described.

No. 33,321.—JOHN SHINN, of Leverington, Pa., assignor to Himself and WILLIAM ADAMSON, of Germantown, Pa.—*Improvement in Clutch Pulleys.*—Patent dated September 17, 1861.—This invention consists of a pulley made in two parts, divided in the centre of the groove, one part being keyed to the shaft, while the other is allowed to slide on a feather upon the shaft, so that the latter can be forced towards the former and caused to bite the belt. Between these two parts is a loose pulley, upon the face of which the belt may rest when the sections of the pulley are drawn apart.

Claim.—The combination of a groove pulley constructed in sections with a central loose

pulley or central support loose on the shaft when the shaft is stopped, as specified, and for the described purposes.

No. 33,322.—HIRAM WOODBURY, of Buffalo, N. Y., assignor to G. A. PRINCE and THOMAS STEPHENSON, of the same place.—*Improved Swells for Reed Musical Instruments.*—Patent dated September 17, 1861.—The nature and object of this invention are explained by the claim.

Claim.—Forming the valve of the air chambers constituting the swell so that a projection of it may shut by the valve seat on the front strip of the air chamber, substantially as shown by these papers, for the purpose of qualifying and graduating the tone of reed musical instruments.

No. 33,323.—GILBERT VAN CAMP, of Somerset county, N. J., assignor to Himself and JASPER BERGER, of the same place.—*Improvement in Pumps.*—Patent dated September 17, 1861.—This invention consists in the arrangement of a short cylinder, within which works a solid single piston. Attached to the ends of the cylinder are two caps provided with ball valves, so that the cylinder is filled and emptied at every stroke of the piston, whether forward or backward.

Claim.—First, the combination and arrangement of the short closed cylinder A, the solid piston B, working from end to end of said cylinder, in connexion with the cylinder caps C and C', substantially in the manner and for the purposes set forth.

Second, in combination therewith, the cylinder cap C and the stuffing box M, as and for the purposes set forth.

No. 33,324.—AMOS LEONARD, of Sullivan, O.—*Improvement in Boring Machines.*—Patent dated September 17, 1861.—The gearing by which the auger is propelled is connected with a frame made to slide in vertical standards. Motion is imparted to the driving wheel by means of a lever, provided with two pawls, acting on opposite sides of the wheel. Secured to the base is a rack lever, by means of which the sliding frame, with the gears and auger, are raised to any desired height.

Claim.—The special arrangement of the lever K, sliding frame D, rack lever M, and intermediate gear wheels, operating substantially as and for the purpose specified, by which means the auger is caused to bore the mortise and is also raised up out of the hole after being bored.

No. 33,325.—SAMUEL W. WILLIAMS, of Centreville, N. Y.—*Improvement in Ventilators for Houses.*—Patent dated September 17, 1861.—Upon one side of the wall of a building is secured a wheel with proper openings for the passage of air. Upon the other side are placed two wheels or discs, provided with openings supplied alternately with glass, so arranged as to serve the double purpose of a window and ventilator.

Claim.—The arrangement of the wheels A and B, provided with ventilating openings and alternate panels of glass, the two being connected and constructed as set forth, so as to be operated by means of a weight and cord, said ventilator being used for the double purpose of giving light and ventilation, as is fully specified.

No. 33,326.—CHARLES F. ABRIGHT and LEWIS BURKHARD, of Pottsville, Pa.—*Improvement in Removable Carriage Fronts.*—Patent dated September 24, 1861.—This invention consists in providing a carriage with a hinged or folding movable front, which can be put up in front of the driver, thus closing the carriage and protecting him from wind, cold, or rain, and when not required can be folded up out of the way in front of the driver.

Claim.—The hinged or folding movable front for carriages, dispensing with aprons, constructed and operating as set forth, and for the purposes described.

No. 33,327.—JOHN ADAMS, of Monroe, Mich.—*Improvement in Harrows.*—Patent dated September 24, 1861.—This invention consists in forming the ends of the triangular frames at the joints, so that the wedges or retaining keys, when driven hard between the joints, effectually stiffen the harrow when used on level ground.

Claim.—The employment of keys G G G, constructed substantially as described, in combination with a triangular harrow made up of frames A B C, jointed together and otherwise constructed as and for the purposes described.

No. 33,328.—ETHAN ALLEN, of Worcester, Mass.—*Improvement in Revolving Fire-Arms.*—Patent dated September 24, 1861.—This invention consists in securing the cylinder pin by a lever catch, so that both lever and pin can be operated by the thumb at the same time when the cylinder is to be removed.

Claim.—The lever K, when applied to the extreme front of the frame A, so that the thumb will operate on it and the pin D at the same time, substantially as specified.

No. 33,329.—GEORGE D. ARRINGTON, of Charlestown, Mass.—*Improvement in Knapsacks.*—Patent dated September 24, 1861.—This invention consists in a method of cutting the material of which the knapsack is made from one piece, as shown by the engraving, and in so folding it that the seams shall be in the least objectionable places and few in number.

Claim.—The peculiar method of cutting and folding the material from which the body of the knapsack is made, as described, and for the purpose substantially as set forth.

No. 33,330.—STEPHEN S. BARTLETT, of Woonsocket, R. I., assignor to Himself and THOMAS H. DODGE, of Washington, D. C.—*Improved Mortising Machine.*—Patent dated September 24, 1861.—A pitman connects the head stock to the top of the upper arm of a bent lever, the lower arm of said lever is connected by a rod to the back of a treadle. By pressing the treadle a little downward, a short movement is given to the arbor which carries the chisel, and by pressing still lower and lower at each successive stroke, the length of the stroke is increased, while the motion of the lever is communicated by a belt from the power wheel to the driving pulley, thus enabling the chisel to continue its stroke without stopping.

Claim.—The combination of the stationary slide piece I, movable sliding fulcrum piece H, with the frame A, and operating lever L, and spindle I, arranged to operate substantially as and for the purposes set forth.

No. 33,331.—JEHU BRAINERD, of Cleveland, Ohio.—*Improvement in Process of Coloring Skins and Leather.*—Patent dated September 24, 1861.—This invention relates to the use of protochloride of iron in solution, as a basis of a color for skins that have been previously subjected to the action of tannin.

Claim.—The use of the protochloride of iron in combination with tannin, substantially as and for the purpose specified.

No. 33,332.—JOSEPH W. BRIGGS, of Cleveland, Ohio, assignor to Himself and KYSE SMITH, of same place.—*Improved Mode of Constructing Gate or Door Springs.*—Patent dated September 24, 1861.—The object of this invention is to construct a gate or door spring that will close a gate or door that may be opened to the right or to the left hand, or to open both ways to the right and left hand, which is accomplished by the use of a coiled spring within a drum to which is secured a leather strap that passes over a friction roll and thence to a post or fastening on the gate, the drum and leather strap being protected from the weather by an outer casing.

Claim.—The combination of the bed plate I, friction roller G, cover A, strap F, coiled spring E, and drum B, constructed as described, with the stationary shaft C, and projecture N, on bed plate I, and hub V, on the inside of drum B, for the purposes set forth.

No. 33,333.—CHARLES BRODY, of New York, N. Y.—*Improvement in Machinery for Cleaning Vegetable Fibres.*—Patent dated September 24, 1861.—This machine is designed to clean the fibre of a plant called "pita." The plant is fed between a pair of grooved rollers, after which it is presented to a series of combs upon the surface of a cylinder, the combs separating the fibre and removing the fleshy matter surrounding them. Each comb is provided with a scraper which removes such matter as adheres to it, the scrapers being operated by a spring fastened to the surface of the cylinder.

Claim—First, the combination of the combs and the scrapers, supported by a spring or springs, for the purpose set forth.

Second, the combination with those scrapers and combs of the cam *g*, to operate upon the scrapers and cause them to act substantially as specified.

Third, the combination with those combs and movable scrapers of the cleaning board or stationary scraper *k*, for the purpose of cleaning the movable scrapers.

Fourth, said two pairs of feeding rollers, one pair running faster than the other, in combination with the combs and movable scraper, for the purpose and substantially as specified.

No. 33,334.—ALBERT H. BROWN, of Albany, N. Y., assignor to JAMES BURTON, of the same place.—*Improved Machine for Turning Ovals.*—Patent dated September 24, 1861.—This invention consists in arranging that portion of the face-plate which turns in a true circle around the centre of the lathe spindles, and which forms the ways for the eccentric attachment on the outside of said eccentric attachment, so that the portion of the rotary body which turns in a true circle around the centre of the lathe spindles describes a larger circle, and consequently moves quicker than those parts to which an eccentric motion is imparted, thereby enabling the momentum of that portion which turns in a true circle to overcome the momentum of the eccentrically moving parts, and to deaden the side strain and the shaking motion produced in ordinary eccentric lathes by the eccentric motion of the face-plate and the work attached to it.

Claim.—In combination with the driving spindle A, slide E *d*, and, adjustable ring G, of an eccentric lathe, the arrangement of the arms *b*, extending on opposite sides from the face plate *a*, and forming with the same the concentrically rotating balance frame D, considerably exceeding in length and weight that of the slide E, which carries the work, the whole being constructed and operating in the manner and for the purpose described.

No. 33,335.—PATRICK BURKE, of Helena, N. Y.—*Improved Method of Setting Posts.*—Patent dated September 24, 1861.—This invention consists in placing the lower end of the post upon an inclined stone resting upon an upright stone, and then packing small stones around the bottom, on which is thrown a layer of cedar bark over which is placed sods with

the grass side down, which arrrangement is designed to prevent the frost from heaving up the post, and the water from collecting and decaying it.

Claim.—The employment of the different materials named for planting posts, when used in the successive order specified, and in connexion with the foundation, as set forth.

No. 33,336.—CHARLES F. CAMPBELL, of Chenango, N. Y., assignor to Himself and JOSEPH SMETHURST, of the same place.—*Improvement in Machine for Hulling, Cleaning, and Grinding Grain.*—Patent dated September 24, 1861.—In this machine the hopper feeds the grain for grinding or for hulling, between an inclined runner and stone. The runner is situated above the stone and is supported by cross pieces and friction rollers upon an adjustable bar, so that the grinding surfaces may be near to each other for grinding or further apart for hulling. The runner has a reciprocating motion.

Claim.—First, the arrangement of the bed-stone, having a dress substantially as described, in combination with the adjustable runner, having reciprocating motion.

Second, and in connexion therewith the receiver *e* with the fan blower and the exits, as recited.

No. 33,337.—GEORGE CARY, of Cleveland, O.—*Improvement in the Process of Manufacturing White Lead.*—Patent dated September 24, 1861.—This invention consists in subjecting metallic lead to the action of vapors arising from heated vinegar of low proof, which gives at once sufficient aqueous vapor to corrode and acetic acid vapor to form the sub-acetate of lead, and thus prepare it to receive the carbonic acid gas which forms the carbonate of the protoxide or white lead.

Claim.—Subjecting metallic lead placed in a room or chamber made and kept tight throughout the process, as specified, to the action of aqueous and acetic acid vapors conjointly and continuously with carbonic acid gas until the process is completed, in the manner substantially as and for the purpose set forth.

No. 33,338.—W. T. COLE, of Reed, O.—*Improved Approach Opening Gate.*—Patent dated September 24, 1861.—This invention consists in the combination of a cam with a gate hung on a horizontal axis, so that it may be thrown up out of the way when opened by the operation of the cam, and with levers and their connexions for operating the same when one of them is acted upon by the wheel of a vehicle.

Claim.—The combination of the cams 1 1 with the slides 7 7 and the shafts 8, and the gate or gates 2 2, when combined and operated substantially as set forth.

No. 33,339.—WILLIAM DENNIS, of Providence, R. I.—*Improvement in Soap.*—Patent dated September 24, 1861.—This invention is explained by the claim.

Claim.—The soap made of curd soap, bichromate of potash, water, muriatic acid, palm oil, or tallow stalk and oxyde of manganese, as shown and described.

No. 33,340.—ANDREW T. DUNSHEE, of McKeesport, Pa.—*Improvement in Water Filters.*—Patent dated September 24, 1861.—This invention consists in the arrangement of a water filter and cooler furnished with perforated bottoms, an air chamber and air passages, and used in combination with layers of charcoal. The water falls from the perforated bottoms in small drops and passes through successive layers of charcoal and through the filtering cloth, receiving during its descent constant supplies of oxygen from the currents of air passing through the air passages.

Claim.—The perforated bottoms *n* and *g*, filtering cloth *f*, and openings *m* and *l*, when used in connexion with the triple strata of charcoal prepared and proportioned as set forth.

No. 33,341.—CHARLES R. FOLGER, of Cincinnati, O.—*Improvement in Loop Catches for Sewing Machines.*—Patent dated September 24, 1861.—The loop acts as its own spring and is made to rest against the rotating hook with a yielding pressure without injury to the surface, so as to resist the vertical strain of the thread and prevent the escape of the loop until the proper moment, when the form of the hook permits it to pass.

Claim.—The adjustable loop check A *b c*, formed of an elastic metallic bar and constituting its own spring, and so constructed and applied, in connexion with the rotating hook B, as to rest against a portion of the periphery of the said hook with a yielding pressure and at the same time resist the vertical strain of the loop, all as shown and explained.

No. 33,342.—A. FORRIST and C. A. WHEELER, of Mount Vernon, Iowa, assignors to Themselves, W. H. GOUDY, and HENRY ROGERS, of the same place.—*Improvement in Boot Patterns.*—Patent dated September 24, 1861.—This invention is designed as an improvement in boot patterns, which are so constructed as to be capable of being extended or expanded and contracted, and thereby rendered available for cutting out boot leather of any and every required size. The object of the invention is to obtain a set of patterns which may be readily and exactly adjusted, and also readily adapted for cutting out stock for both coarse and fine boots.

Claim.—The connecting of the pieces A A O P of the several patterns by means of the parallel arms C C′ C″ Q, attached to sliding strips B B′ R, in connexion with the traverse

guide pieces D D' L S S', toe-pieces H, and counter-pieces M, the latter named parts being arranged and applied to their respective patterns as shown, the whole forming a new and improved combination of patterns for the purpose specified.

No. 33,343.—THOMAS GARRICK, of Providence, R. I.—*Improvement in Knapsacks.*—Patent dated September 24, 1861.—The object of this invention is to provide a knapsack for the convenience of the soldier, arranged so as to accommodate in one package to be carried on the back his clothing and rations, while the different parts which compose it (*i. e.*, haversack, canteen and knapsack) can be used separately, if desired. When not in use the knapsack can be folded into a small space for convenience of storage or transportation.

Claim.—First, combining and arranging a knapsack, canteen and haversack, in the manner substantially as described.

Second, making the sides of a knapsack in such manner that they can be folded together substantially as described, for the purposes specified.

No. 33,344.—GEORGE W. B. GEDNEY, of New York, N. Y.—*Improvement in Air-Guns.*—Patent dated September 24, 1861.—This invention consists in the use of a hollow handle of India-rubber or other flexible air-tight material, which communicates with a short tube placed beneath the barrel and communicating with it by means of a passage. A valve of cork or other suitable material closes the passage between the hollow handle and the tube, and is pressed into its seat by a rod. To discharge the piece, the rubber handle is compressed until the pressure of the air overcomes the adhesion of the valve to its seat, when it is driven back and the air escapes into the tube and thence to the barrel, driving out the bullet or projectile.

Claim.—First, the combination of the parts as described.

Second, the valve made as described, and acting by its own adhesion.

Third, the bag or pouch made from India-rubber, gutta-percha, or any flexible air-tight material, for the purpose of projecting light articles or metal shot, and to be compressed either by the hand or otherwise, as fully described and set forth.

No. 33,345.—R. D. GRANGER, of Albany, N. Y.—*Improvement in Stoves.*—Patent dated September 24, 1861.—This stove is of that class commonly called "magazine stoves." Behind the fire-box and magazine are air spaces, which are bounded by the plates of the stoves, thus increasing the radiating surface. A supply of atmospheric air is furnished to the fuel undergoing consumption, and also to the escaping gaseous products through small holes in a tube or chamber just above the doors. The fuel in the magazine is gradually heated up by that part in combustion in the fire-box, and gradually passes down as room is made for it towards the grate surface, its passage being facilitated by the inclined front and back of the fire-box.

Claim.—First, the arrangement of the flues set forth, in combination with a magazine or base-burning stove, substantially as described.

Second, the arrangement of the air-tubes or chambers in their relation to each other and to the fire-box and throat of the fire-box, as described.

Third, the bed-plate in combination with the grates.

Fourth, the magazine, substantially as it is constructed and arranged in relation to the inclined surfaces of the fire-box and to the other parts of the stove.

No. 33,346.—ANDREW L. HASKILL, of Boston, Mass., assignor to Himself and E. H. ASHCROFT, of the same place.—*Improved Folding Tent.*—Patent dated September 24, 1861.—Jointed arms are attached to the top of the central pole and to a sleeve sliding thereon, which is raised or lowered by means of a cord. When this jointed frame is raised into position by the cord, the upper portion of the tent is distended, and from this frame may be suspended knapsacks, clothes, &c.

Claim.—The arrangement of the pulley in the centre pole, as described, for the purpose of raising and lowering the tent, the same being constructed and operated substantially as set forth.

No. 33,347.—RUFUS HAVEN, of Perrysville, Ind.—*Improvement in Moth-Traps for Bee-hives.*—Patent dated September 24, 1861.—This invention consists of a box or trap having lighted compartments, (to be placed under any form of hive,) with numerous entrances thereto, so arranged as to decoy the moth below and around the bee entrance to the hive, which entrance consists of a perpendicular tube, the lower end being directly over and coming near to a half globe or cone-shaped elevation, so that the moth cannot fly into the tube, their tendency being to crawl with their heads down.

Claim.—The vertical tube H and the hemisphere G, in combination with the moth compartments and the entrances thereto, arranged substantially in the manner and for the purposes set forth.

No. 33,348.—H. Q. HAWLEY, of Albany, N. Y.—*Improved Meter for Water, Gas, and other Fluid.*—Patent dated September 24, 1861.—At each end of a horizontal cylinder is a valve-box, in which are fitted two inlet and two outlet valves respectively, and which contain the principal parts of the valve-operating mechanism, consisting of two levers and two tum-

bling bars and their attached tumbling weights. The two tumbling bars work upon fixed pins, and are connected with opposite ends of the piston-rod by means of chains, through the agency of which the piston can move the tumbling bars by pulling but not by pushing them, the water acting alternately on opposite sides of the piston.

Claim.—First, combining the piston or diaphragm of a fluid meter with weighted levers or tumbling bars for operating the inlet and outlet valve or valves thereof by means of a rod I and chains H H', applied to operate substantially as specified.

Second, the employment in a fluid meter of a system of valve-operating mechanism in which weighted levers or tumbling bars arranged within the meter are first brought by the movement of the piston or diaphragm to a position or condition to exert upon the valves a tendency to reverse their position, but not to move them until they have been started by the direct action of the piston or diaphragm in its further movement, and then caused to suddenly complete the movement of the valves, substantially as described.

No. 33,349.—JAMES R. HENDRICKSON, of McKeesport, Pa.—*Improvement in Fireplaces.*—Patent dated September 24, 1861.—This invention consists in the combination of a series of air chambers with the ordinary fire-grate, for the purpose of consuming the smoke, avoiding dust, increasing the draught and heat, and the saving of fuel. The air in one of the chambers becoming heated; causes a partial vacuum, and the current of air from the chamber below forms an eddy, which retains the smoke until it is sufficiently rarified, when it is drawn into the fire and consumed, the draught being increased by the cold air rushing into the draught chamber above.

Claim.—The arrangement of the air chambers *m n* and *e*, the narrow air-passage *b*, and draught chamber *t*, when used in combination with the ordinary fire-grate, as described, for the purpose set forth.

No. 33,350.—BERNARD J. LA MOTHE, of New York, N. Y.—*Improvement in Metallic Cars for Railroads.*—Patent dated September 24, 1861.—This invention has reference to the manner of constructing the metallic framing employed in railroad cars, carriages, &c., and consists in making the ribs or framing of metallic pipes, set the one into the other, said pipes being bent into a curve at that point, or where the two thicknesses occur, over which may be slipped a collar or short piece of pipe, thereby binding them securely together. This framework or skeleton is then secured or tied together by metallic bands, clamps, or collars, which hold the parts firmly without weakening the bands or ribs by holes for rivets, by which means the labor and expense necessary for fitting the metallic bands heretofore employed in perforating and riveting them is avoided.

Claim.—First, the employment of pipes or tubes for forming the ribs or framing of a railroad car or other vehicle when the same are strengthened at the parts where bent by bars or pipes, as set forth.

Second, the combination of the aforesaid ribs (formed of pipes) with bands running longitudinally to the car, or with the beam or beams *d*, as set forth.

Third, the metallic clamps or collar *h* or *i* applied at the intersections of the bands or ribs, as set forth, for binding the parts together, and avoiding the perforation of the bands themselves for the introduction of rivets or bolts, as specified.

No. 33,351.—ROBERT H. LECKY, of Allegheny City, Pa.—*Improved Machine for Drilling Oil Wells.*—Patent dated September 24, 1861.—This invention consists in the arrangement of the drop-head which carries the drilling tool, catches, tripper, revolving slides, and sliding head, so that the drill can be caused to descend after having attained any desired elevation, thus giving it a long or short stroke, as may be desired, which is accomplished by setting the trigger so as to come into contact with the tripper at any desired point of the stroke.

Claim.—First, the use of drop *p* having a revolving and perpendicular motion, and used in combination with the self-acting catches *t* and tripper *r*, as described, and for the purpose set forth.

Second, the use of the revolving slides *m*, when used in connexion with the drop *p*, or the equivalent of said drop, as described, and for the purpose set forth.

Third, the arrangement of the rod 7, tripper *r*, bumients 4, sliding head *n*, and rods *o* and 8, when used in combination with the drop *p* and revolving slides *m*, as described, and for the purpose set forth.

No. 32,352.—JOEL LEE, of Galesburg, Ill.—*Improved Washing Machine.*—Patent dated September 24, 1861.—This invention consists in the use of heavy corrugated rolls set in a frame, and suspended in a tub whose bottom is corrugated and curved to correspond to the curve of the roller-frame. The tub is supported in journals, and vibrates back and forth. The roller-frame is held stationary, and the clothes, with the bottom of the tub, move under the roll, which revolve, and press by their weight upon the clothes.

Claim.—The arrangement of the box A, the roller-frame C, the rollers D D D, the arms F and E, the spring K, and the arm J, the several parts being constructed and operating as and for the purpose specified.

No. 33,353.—JOEL LEE, of Galesburg, Ill.—*Improved Clothes-Dryer.*—Patent dated September 24, 1861.—This invention consists in so arranging the hub and other parts of the dryer that the weight of the machine resting upon the lower portion of the hub expands the arms and holds them in that position, the weight being taken off the shaft by inserting it in a hole in a stand or bench or socket made to receive it, so that the hub may rest on the rim of the hole, and when the weight is transferred to the lower end of the shaft by resting it on the ground the arms will contract or collapse.

Claim.—The employment of the hub D, shaft E, arms A, braces B, and hollow post F, arranged as specified, whereby the arms will expand when weight rests upon the lower portion of the hub, and will contract or collapse when weight is transferred to the lower end of the shaft, substantially as specified.

No. 33,354.—A. A. LIVINGSTON, of Cedar Rapids, Iowa.—*Improvement in Stirrups.*—Patent dated September 24, 1861.—This invention consists in applying an India-rubber foot-piece to a stirrup for the purpose of preventing the foot from slipping in the stirrup.

Claim.—A saddle-stirrup A provided with an India-rubber or elastic foot-piece B, substantially as described.

No. 33,355.—JOHN MADDOCK, of Dubuque, Iowa.—*Improvement in the Hounds of Carriages.*—Patent dated September 24, 1861.—This invention consists in forming the front hound of a single piece of wood, steamed and bent so that its back part will be of circular form, and its front part formed of parallel ends. The rear end of the draught pole is fitted between the parallel parts of the hound and secured by a bolt.

Claim.—Having the front hound E of a wheel vehicle steamed and bent in circular form and applied to the vehicle, substantially as and for the purposes set forth.

No. 33,356.—J. F. MAYNARD, of Nashua, N. H.—*Improvement in Flyers for Spinning Machinery.*—Patent dated September 24, 1861.—This invention consists in constructing a flyer with a left-handed screw-attaching whirl, and also a left-handed screw-attaching nose, each being formed so as to fit on their respective parts by a rounded shoulder-connexion or tenon. The device is designed to prevent the loosening of the flyer in its rapid rotary motion, the spiral thread of the screw connexion running in an opposite direction to the rotary motion of the flyer and whirl.

Claim.—The construction of flyers with the left-hand screw whirl attachment *a b c d e*, and also the left-hand screw adjustable and detachable nose *h i J k*, singly or in combination, as set forth and described, and as shown in Figs. 1, 4, 8, and 9.

No. 33,357.—DUNCAN MCKENZIE, of Brooklyn, N. Y.—*Improved Camp Cooking and Baking Device.*—Patent dated September 24, 1861.—The object of this invention is to combine a portable range and baking apparatus, and consists of a cooking range placed at the bottom of a metallic case, which is provided at its upper part with a hot-air chamber, the latter communicating with the range by vertical flues, the apartment over the range being provided with a rotating holder, to receive articles to be baked.

Claim.—The combination of the range A, hot-air chamber C, tubes or flues D, and baking oven F, when arranged as shown to form a new and improved portable cooking and baking device.

No. 33,358.—H. B. MIDDAUGH and ALBERT CLARK, of Mansfield, Pa.—*Improved Horse-Power Machine.*—Patent dated September 24, 1861.—This invention consists in the use of a large rotating tread-wheel, which imparts motion to the fly-wheel shaft through a toothed pinion or by friction on a suitable wheel. The tread-wheel is supported at the centre, and revolves on a pin; it also rests near its periphery on the pinion of the fly-wheel shaft and on a roller having its bearings in an adjustable lever, by means of which its plane of rotation can be varied at pleasure. The tread-wheel is thus supported at three points. The hub of the tread-wheel extends up some distance, from the top of which brace rods extend to the arms of the wheel.

Claim.—The arrangement of the elevated hub G′, braces *p*, and separable segment toothed wheel G, with each other, and with the centering pin or pivot *c*, adjustable lever J, and supporting wheel *d*, all the parts being constructed and operating together in the manner shown and described.

No. 33,359.—L. MISHLER, of Mogadore, O.—*Improvement in Machine for Loading Hay.*—Patent dated September 24, 1861.—In this apparatus a catch spring and jointed lever are so arranged as to retain the tines which hold the hay at right angles to the brace when the load is being lifted. When it has reached the desired place, by pulling a rope attached to the spring the lever is disengaged from the catch and the tines assume a vertical position, which causes the hay to slide off. By again pulling the rope the tines and brace are brought at right angles to each other, preparatory to lifting.

Claim.—The jointed lever H with the piece J, and spring F with the catch I, in combination with the brace G and fingers A, the whole being operated by the rope R, in the manner and for the purpose specified.

No. 33,360.—J. A. MONTGOMERY, of Williamsport, Pa.—*Improved Canteen.*—Patent dated September 24, 1861.—This invention consists in constructing a canteen with a cup fitting over a portion of it, which, when reversed, forms a funnel, and also serves as a drinking cup.

Claim.—A canteen, of any desired form or material, with a funnel or cup fitting it, substantially as described.

No. 33,361.—JOHN W. NEWALL, of New Brunswick, N. J.—*Improvement in the Manufacture of Elastic Cloth.*—Patent dated September 24, 1861.—The nature of this invention is explained by the claim.

Claim.—An elastic cloth, which is a compound fabric produced by the combination of two sheets of woven cloth, obtained by cutting tubular cloth spirally, with a layer of elastic gum, (such as India-rubber,) the combination being rendered permanent by vulcanization, substantially as set forth.

No. 33,362.—OGDEN P. PELL, of Flushing, N. Y., assignor to Himself and ALFRED M. TREDWELL, of Madison, N. J.—*Improved Lounge and Camp Stool Combined.*—Patent dated September 24, 1861.—This invention consists in connecting two camp stools together by means of rods, between which is extended a piece of sacking or webbing, thus forming a camp bedstead, which can be readily taken apart and the camp stools used separately.

Claim.—The extension centre piece, formed of sacking or equivalent material, between two side pieces that are provided with dovetails or other connexions at their ends, taking the parts of the camp stools, in the manner and for the purposes set forth.

No. 33,363.—BENJAMIN REED, of Pittsburg, Pa.—*Improved Washing Machine.*—Patent dated September 24, 1861.—This invention consists in the arrangement of two spiral springs, which are used for holding the axle of the cylinder in its proper place in the journal boxes, and also for the purpose of giving the cylinder a horizontal motion when pressed by the clothes in washing. The journal boxes move vertically in slots on the sides of the openings which contain them, the object being to impart to the cylinder a vertical, horizontal, and rotary motion.

Claim.—The arrangement of the springs *b* and *c* and movable journal boxes *a*, when used in connexion with axle *e* of cylinder *f*, arranged, constructed, and operated substantially as described and for the purpose set forth.

No. 33,364.—EDWARD S. RENWICK, of New York, N. Y.—*Improved Propeller.*—Patent dated September 24, 1861.—The object of this invention is to enable screw propellers to be located at or near the longitudinal centre of a vessel, and, at the same time, be wholly or partially submerged; and the invention consists in combining a screw propeller with a recess in the side of the vessel in such a manner that a portion of the propeller revolves in the recess and a portion revolves outside of the recess. The screw propeller is also combined with a chamber located on the outside of the vessel's side, and with an opening through the vessel's side into said chamber, the latter being located in such a position that it contains within it the pillow block of the propeller shaft, and the opening permitting access to the pillow block on the propeller shaft from the interior of the vessel.

Claim.—The combination of a screw propeller with a recess in the side of the body of the vessel to which the screw propeller is applied, the propeller revolving partially in said recess, substantially as set forth.

Also, the combination of a screw propeller with a chamber upon the vessel's side to contain the pillow block of the propeller shaft, substantially as set forth.

Also, the combination of a screw propeller with both a recess in the side of the vessel to receive a portion of the propeller and a chamber upon the vessel's side to contain a pillow block of the propeller shaft, substantially as set forth.

No. 33,365.—SAMUEL ROEBUCK, of Brooklyn, N. Y.—*Improved Mosquito Bar.*—Patent dated September 24, 1861.—This invention consists in the combination of a folding frame, which is constructed similarly to that of an umbrella, with uprights or supports, so that it can be readily applied to a bed, and be disjointed and folded compactly.

Claim.—The combination of the folding frame A, uprights D, and net E, arranged and applied to the bedstead as and for the purpose set forth.

No. 33,366.—HENRY E. ROEDER, of New York, N. Y.—*Improved Anti-friction Railroad Car Spring.*—Patent dated September 24, 1861.—This invention consists in the arrangement of a number of bars of steel of uniform width and of graduated lengths in combination with a casing with graduated ledges, so that the weight brought to bear upon the spring will first be received by the longest bar or bars, and by the increased weight thereafter by the different lengths successively, until all the bars are brought into action.

Claim.—First, the combination of a number of steel bars of uniform width and of graduated length with a casing provided with graduated ledges, the whole being constructed and arranged in the manner and for the purpose substantially as specified.

Second, the recess P in the casing into which the block D fits, and whereby the same is guided to prevent any lateral motion of the plates.

No. 33,367.—BENJAMIN T. RONEY, of Bristol, Pa.—*Improvement in Coal Stoves.*—Patent dated September 24, 1861.—This invention consists in the arrangement of a cylindrical fire-pot, a grated fire-pot, and an internal casing, whereby the ignited products of combustion are directed laterally through the bars of the said grated fire-pot; also in the combination of an air chamber provided with openings, with the fire-pot and ash-pit, whereby the air for supporting combustion is thoroughly heated before it mingles with and ignites the products of combustion generated from the partially consumed fuel in the grated fire-pot; also the use of slides for preventing the mica plates of the fire chamber from being discolored by the smoke when the fire is first kindled.

Claim.—First, the cylindrical fire-pot G, the cylindrical and grated fire-pot M, and the internal casing or fuel reservoir B, when the several parts are arranged in respect to each other substantially as set forth, for the purpose of directing the ignited products of combustion laterally through the bars of the said grated fire-pot, as set forth.

Second, the arrangement of the air chamber *b*, its opening *t*, the fire-pot G, and ash-pit *a*, whereby the air is directed in the first instance against the said fire-pot, thence into the ash-pit, and thence through the fuel, for the purpose described.

Third, the slides *p* applied to the interior of the fire chamber *d*, and arranged in respect to the mica plates of the door and sides of said chamber in the manner and for the purpose specified.

No. 33,368.—JULIA A. ROSS, executrix of JAMES P. ROSS, deceased, late of Lewisburg, Pa.—*Improved Valve Gear for Steam Engines.*—Patent dated September 24, 1861.—This invention consists in the employment, in combination with an oscillating yoke, of a spring or springs attached to the yoke for the purpose of performing the duty done by the counterpoise levers heretofore used. The yoke has on its face next the piston-rod three projecting cams and an arm projecting upward for the connexion of the valve-stem, and has holes in the ends for the reception of rods, upon which are screw-nuts, which serve to adjust the stiffness of the spring.

Claim.—The employment, in connexion with the oscillating yoke H, of a spring or springs J attached to the yoke, and operating in combination therewith and with the wiper *h*, or its equivalent, and the traveller *g*, as set forth.

No. 33,369.—WILLIAM SHERWIN, of Shelburne Falls, Mass.—*Improvement in Husking-Pins.*—Patent dated September 24, 1861.—This instrument is constructed by means of dies from a thin sheet of metal of the form shown in the engraving, one end being curved in a direction opposite to that of the other and adapted to fit the ball of the thumb, the main portion being curved in the direction of its width to fit the hand when in use.

Claim.—A sheet metal husking-pin, constructed in the manner set forth, and substantially of the form and possessing the properties described, as a new article of manufacture.

No. 33,370.—WILLIAM SISSON, of Fulton, N. Y.—*Improvement in Stave Machines.*—Patent dated September 24, 1861.—This invention consists in the use of a set of rib-guides projecting from the front side of the guide-bar, against which the stave rests, these guides being concentric with the movement of the vibrating bed, the open spaces between the rib-guides allowing the chips to fall through and escape. As the place where the knife strikes the bed is liable to be much cut and notched, a deep groove is cut in this portion of the bed, in which is set a strip of hard wood, which, as it is worn away, is raised up by set screws, and planed off so as to present an even surface to the knife.

Claim.—The rib-guides *d d*, arranged in combination with the bed E, substantially in the manner and for the purpose specified.

Also, the employment of the strip or strips *g* of wood, inserted with the ends of the grains upward, in a groove of the bed, upon and in combination with a firm supporting bar *h*, which is adjustable up and down by set screws *i i*, or their equivalents, substantially as and for the purpose specified.

No. 33,371.—J. HOMER SMITH, of Brewster's Station, N. Y.—*Improvement in Gun-Locks.*—Patent dated September 24, 1861.—This invention consists of a hair-trigger formed in two parts, the upper piece acting as the sere, and is adjusted by two screws, both of which pass through the lower part, and connect with the bottom of the upper part at its extreme ends, one screw passing in front of the pin which pivots the two pieces of the trigger together, and the other screw passing in the rear of the said pin. The hammer is operated by a main spring coiled up within a cavity made in the but, one end of the spring being fastened to the pin on which the hammer centres, and the other secured to the but by entering a notch within said cavity.

Claim.—First, the trigger, constructed of two pieces D and *d*, united with a pin point *f*, the said piece *d* having an upward extension above the resting place of the tumbler, substantially as specified.

Second, the combination of the two notches *g* and 5 in the separate pieces D and *d* of the trigger and the single tooth *k* on the tumbler, substantially as specified, whereby the hammer is allowed to be held cocked by a portion of the hair-trigger.

Third, the screws *i* and *j*, applied and operating substantially as described, for the purpose set forth.

No. 33,372.—C. WILLIAMS and E. F. FALCONNET, of Nashville, Tenn.—*Bell Piano.*—Patent dated September 24, 1861.—This invention consists in the use of a set of bells, properly tuned and arranged in a case similar to that of an upright piano-forte, and combined with a system of playing keys, hammers, and dampers in such manner as to enable the bells to be played upon in the same manner as a piano-forte. The instrument may be combined with a piano so as to be played with the same or a separate set of keys.

Claim.—First, a musical instrument composed of a set of bells arranged in a number of vertical series, side by side, within a case of the character specified, and having combined with them a system of hammers, dampers, and playing keys. This we claim without reference to any particular arrangement or system of hammers and dampers and their operating mechanism that may be employed.

Second, the employment, in combination with an instrument of a pedal or pedals M M′, combined with a system of dampers by a system of slides L L′, in the manner substantially as specified.

Third, the employment, in combination with the bells or with any number of the same, of a whole or partial double set of hammers F F′ and double set of jack-levers H H′, the latter attached to a movable board K, or its equivalent, combined with a pedal Q in such manner as to be movable thereby, for the purpose of allowing one or other set of hammers to be played by one set of keys, substantially as specified.

No. 33,373.—EDMUND F. BARNES, of New York, N. Y.—*Improved Telegraph Instrument.*—Patent dated October 1, 1861.—This invention consists in the use of a number of wires proportioned to the number of elementary parts of the letter or figure to be transmitted; each wire acting independently, but in combination with each and all of the others. The wires and their attachments are so arranged at the transmitting station that when they come in contact with the surfaces of the raised letters, the circuit will be closed and a current of electricity be sent through them, and the record at the receiving station made to correspond to the letter or outline with which the wire is in contact at the transmitting station.

Claim.—First, the application and use for the purpose of transmitting and recording letters and figures substantially as set forth, of five wires or their equivalents, corresponding to the five elemental or distinct parts of such letters and figures.

Second, the combination of the transmitting levers A A and movable letters or figures, with a series of five wires substantially as set forth.

Third, the combination of a series of magnets D D and recording or inking surfaces *i i′*, substantially as described, with a series of five wires for the purpose of recording letters, &c., by the action of the electric current acting mechanically.

Fourth, the arrangement of the electro-magnets D D and the levers E E, substantially as described, the magnets acting directly upon such levers, and such levers being made the armatures of the magnets in combination with the use of a series of wires and recording apparatus, as set forth.

No. 33,374.—JOHN H. BLOODGOOD, of New York, N. Y.—*Improvement in Machinery for Drawing and Spinning Wool.*—Patent dated October 1, 1861.—This invention consists in the employment, between the delivery rolls and the spindles, of drawing rolls of cylindrical form, so applied and operated as to be separated at intervals of time and at distances capable of accurate regulation. Said intervals of time being regulated as to frequency and duration, whereby the twist produced by the spindles is allowed to run back past said drawing rolls to a greater or less extent, as desired, and the yarn is consequently drawn with greater perfection and evenness than by the ordinary methods, and is less liable to break in certain kinds of work.

Claim.—First, the employment between the delivery rolls and the spindles of drawing rolls of cylindrical form, so applied and operated that they may be separated at intervals capable of accurate regulation, substantially as described and for the purpose set forth.

Second, the employment for effecting the separation of the drawing rolls, and regulating the frequency, duration, and amount of said separation, of a system of mechanism substantially similar to that described in combination with the movable rolls E′.

Third, the combination of the drawing rolls E E′, capable of separation as described, with any of the usual forms of drawing rolls as applied to the various staples used in the manufacture of yarns, for the purpose of rendering the process of spinning more perfect.

No. 33,375.—CORNELIUS BOLLINGER, of Glen Rock, Pa.—*Improvement in Pumps.*—Patent dated October 1, 1861.—This invention consists in so connecting a vibrating platform with a pump, that as the cattle step upon one end of the platform the plunger is raised, and as they pass the fulcrum it is depressed, filling the trough with water through the eduction pipe.

Claim.—First, the bridge R, platform N, and plunger F, in combination with the pipe L, cavity I, and valve K, when arranged and operated as set forth.

Second, the elastic ring packing H, in combination with the flange or rim G, and contraction C in the cylinder A, when these parts are arranged in relation to the stationary fulcrum O in the platform N, as and for the purpose specified.

No. 33,376.—MORRIS BRADLEY, of Empire Ranch, Cal.—*Improved Gold-Washer.*—Patent dated October 1, 1861.—This invention consists in providing a common sluice with an auxiliary or second sluice placed alongside and parallel to the main sluice, but somewhat lower, so as to obtain a fall for the water. In the main sluice near the bottom and on the side next to the smaller sluice, are openings at a convenient distance apart, opposite which are placed suitable gratings. One of the openings is provided with a gate to regulate the discharge of water.

Claim.—First, the placing the grate bars on riffles wider apart at the end next the discharge, so that it is impossible for them to become clogged with dirt or other matter.

Second, the opening and discharge in the side and near the bottom of the main sluice.

Third, the arrangement of the gate in connexion with the others.

Fourth, the small sluice as connected with and laid parallel to the main sluice.

The whole when combined constituting a new and useful invention.

No. 33,377.—JAMES BREWER, of Albany, Ill.—*Improvement in Combined Harrows and Sowers.*—Patent dated October 1, 1861.—This invention consists in the use of a main harrow and a revolving harrow, in combination with a sower, so arranged that the main harrow and sower can be raised off the ground by the lever I when the machine is to be turned. The lever G is for the purpose of keeping the sower level when sowing up or down hill.

Claim.—First, the combination of main harrow C, revolving harrow D, and seed-box A, with revolving shaft E, seed-buckets *e e*, and convex spreaders F F, substantially as and for the purposes set forth.

Second, the combination of lever G with seed-box A and hinged frame L, substantially as and for the purpose set forth

Third, the combination of hinged lever I with seed-box A, and its supporting axle B′, and wheels B B, substantially as and for the purposes set forth.

Fourth, the combination of lever I, seed-box A, and main harrow C, for elevating and turning the same upon the axis C of the harrow D, substantially as and for the purposes set forth.

No. 33,378.—CHARLES F. BROWN, of Warren, R. I.—*Improvement in Projectiles for Ordnance.*—Patent dated October 1, 1861.—In this invention the projectile during its flight is made to coincide or be tangential to the trajectory line, so that it may strike on its point and explode by percussion, and its form is a prolate spheroid, truncated at both ends, bored centrally through for the reception of a rod provided at its rear end with a shoe having wings, and at its front end with a head having spiral grooves cut therein.

Claim.—A projectile constructed and operating substantially as specified.

No. 33,379.—Cancelled.

No. 33,380.—JOHN DICKINSON, of Brooklyn, N. Y.—*Grooved Rule and Self-adjusting Diamond for Cutting Glass.*—Patent dated October 1, 1861.—This invention consists in setting a diamond in a self-adjusting spring slider running in a grooved rule having a cross-head or T working in guideways in the edges of a table. The diamond may be moved easily over the surface of the glass by the uniform pressure of a spring upon it, and by means of the guide ways in the table and the grooved rule with its cross-head, it is made to travel in parallel directions.

Claim.—First, the combination of the grooved T-rule with the table having marginal guideways in it, for the purpose substantially as set forth.

Second, the combination of the metal slider H with the self-adjustable diamond stock J and grooved rule E, made and operating substantially as described, and for the purpose set forth.

No. 33,381.—WILLIAM EBBITT, of New York, N. Y.—*Improvement in Frogs for Railroad Tracks.*—Patent dated October 1, 1861.—This device is especially adapted to street or city railroads. The invention consists in the introduction of a triangular piece in each frog, by means of which the points of intersection of the grooves are so separated that only two grooves instead of three intersect at one point, and by thus simplifying the frog a less number of switches are required.

Claim.—The triangular piece *t*, in the frog plate *l* or *m*, at the point of intersection of the three lines of track, for the purposes and as specified.

Also, the arrangement of the frogs *g h l* and *m* relatively to the tracks, in the manner and for the purposes specified.

No. 33,382.—WILLIAM H. ELLIOT, of Plattsburg, N. Y.—*Improved Repeating Pocket Pistol.*—Patent dated October 1, 1861.—This fire-arm is loaded at the rear end or breech of the series of barrels. The hammer is pivoted underneath and forward of the rear end of the

barrels, and when it is being raised for firing, its free end passes down into the handle within the hand. Its exploding point holds on to the cartridge like a hook, and penetrates its copper shell a little, thus preventing the recoil of the cartridge against the breech-plate and relieving it from friction when the barrels are revolved.

Claim.—First, extending the frame *a* forward of the breech-plate *d*, and hanging in the part so extended forward the hammer *e* and trigger *f*, when these devices are employed with chambers that are bored through and left open for the purpose of being charged at the rear end, as and for the purpose specified.

Second, the employment of set screw *n*, between the cocking pawl *g* and trigger *f*, when said screw is so employed between these devices as to determine at what point in the motion of the trigger the hammer shall be disengaged, as set forth.

Third, resisting the recoil of the cartridge by means of a hammer pivoted underneath and forward of the rear end of the chambers, as set forth.

Fourth, the employment of a hammer so arranged in relation to the chambers that, while it is pivoted underneath and forward of the rear end of said chambers, its exploding point strikes up in their rear, as specified.

No. 33,383.—THOMAS FODEN, of Holyoke, Mass.—*Improvement in Stop Motion for Power Looms.*—Patent dated October 1, 1861.—This invention relates to a stop motion for stopping the loom whenever the warp, owing to knots in the yarn or the breakage and entanglement of threads, becomes in such condition that "bad places" are likely to be produced in the woven fabric, which is accomplished by certain devices operating in combination with the shipper.

Claim.—A stop motion for the purpose described, having for its principal elements a hole 7 and a tumbler *b* in the shuttle *a*, wheel B, having a sliding tooth *f f'* attached to one of the shuttle-boxes or to the lay, and a sliding rod *m*, and arm *m'*, or their equivalent, attached to the shuttle-box or to the lay; the whole operating together and in combination with the shipper, substantially as specified.

No. 33,384.—PETER M. FREES, of Cincinnati, O., and ZENAS KING, of Milan, O.—*Improvement in Iron Bridges.*—Patent dated October 1, 1861.—This invention relates to that class of bridges which have tubular iron arches, and consists in constructing the arches with a gradually increasing sectional area from each foot towards the centre or crown of the arch, whereby a bridge of equal strength can be constructed with less metal than now employed by distributing it in proportion to the strain it has to bear.

Claim.—The peculiar formation or configuration of the arch A, the same being made to increase gradually in its vertical and lateral dimensions from the ends A' A'' of the arch to its centre or crown, in the manner described, for the purposes set forth.

No. 33,385.—BRIDGE FRODSHAM and MORRIS LEVETT, of New York, N. Y.—*Improved Knapsack and Bed Combined.*—Patent dated October 1, 1861.—This invention consists of an India-rubber casing made water-tight and containing a bag of finely cut cork or other filling, thus forming a life-preserver. A pocket is made in the rubber casing to contain articles of clothing, thus forming a knapsack, which when unrolled becomes a bed, the contained articles forming a pillow.

Claim.—The India-rubber water-tight casing *a*, containing the bag of finely cut cork or equivalent material, and provided with the pocket *c* and flap *d*, as and for the purposes specified.

No. 33,386.—J. K. GITTENS, jr., of Green Point, N. Y.—*Improved Cap or Hat and Havelock.*—Patent dated October 1, 1861.—This invention consists in interposing a thin layer of cork between the body of the hat or cap and the lining, and also lining the havelock with the same material, the non-conducting property of the cork keeping the head and neck cool, and, being porous, also admitting of perfect ventilation.

Claim.—The combination of a cap or hat A and havelock D, each provided with a lining or filling of cork, substantially as set forth.

No. 33,387.—HORACE GOODRICH, of Stoneham, Mass.—*Improvement in Printing Presses.*—Patent dated October 1, 1861.—The frisket frame is prevented from being forced down upon the inking roller by cleats upon which the upper corners of the frisket frame rest. The impression cylinder is hung in spring bearings, so that more or less pressure may be given to it at pleasure.

Claim.—First, the spring frisket N N', provided with the hinged platen P and attached to the end of the reciprocating bed B, and operating in combination with the impression cylinder J and cleats *q*, substantially as described and for the object specified.

Second, hanging the impression cylinder J in the adjustable spring-slides K, substantially as and for the object specified.

Third, the side cleats Q, arranged and operating substantially as set forth and for the object indicated.

No. 33,388.—GEORGE W. HATCH, of Princeton, Ill.—*Improvement in Tanning.*—Paten dated October 1, 1861.—This invention consists in the use of the plant melilotus, (sweet-scented clover,) in connexion with terra japonica, cutch, tanbark, or other usual tanning materials used in the tanning or manufacture of leather.

Claim.—The use of melilotus plant, as specified, in the manufacture of leather.

No. 33,389.—ALFRED HATHAWAY, of Charlestown, Mass.—*Improvement in Paper-Ruling Machines.*—Patent dated October 1, 1861.—This invention consists in a means for causing the points of the pens to bear uniformly on or leave the paper at any required angle; 2d, in making the points of the pens leave the paper uniformly, whether the points be long or short; 3d, in lifting the points of the pens from the machine or paper, and letting them down on the same at any required place or places; 4th, in keeping the endless cloth or apron on rolls within prescribed limits, or moving it uniformly from side to side of the machine at any degree of angle required by its action on the roll, around which passes the endless cloth.

Claim.—First, the moving of one end of the pen-beam by means of a screw connected with and working parallel to the side of the frame, substantially as described and for the purpose set forth.

Second, adjusting the regulator on the pen-beam by means of the combination of the screw *c*, nut E, and plate A, substantially as described, and for the purpose set forth.

Third, lifting the points of the pens from the paper or cloth, and letting them down at any desired place on the same by means of cams, as seen on the end of cylinder *c*, together with the friction rolls D D, brake *j*, shoe-shaped piece K, and bent lever L, either singly or collectively, substantially as described, and for the purpose set forth.

Fourth, the adjusting or angularly placing the roll A, by means of the action or weight of the endless cloth or apron, on roll A, substantially as described and for the purpose set forth.

No. 33,390.—ARTHUR HEMENWAY, of Townsend, O.—*Improvement in Mops.*—Patent dated October 1, 1861.—The mop is constructed with a sleeve outside of the handle, secured to a cross-head and stirrup. To the lower end of the handle is connected a loop, to which the mop cloth is attached, so that by turning the handle with one hand and holding the sleeve in the other, the stirrup being stationary, the mop cloth is wrung without the necessity of touching it with the hands.

Claim.—The sleeve B, head *c*, and stirrup D, when their parts are arranged as specified, in combination with the handle A, and loop E, as and for the purpose set forth.

No. 33,391.—W. E. HOUSTON, of New Haven, Conn.—*Improvement in Compositions for Articles of Ornamentation.*—Patent dated October 1, 1861.—The nature of this invention is set forth in the claim.

Claim.—A composition for useful and ornamental articles made of resin, shellac, and sawdust, the coloring matter of which being composed of any suitable materials, and in the proportions substantially as set forth.

No. 33,392.—GEORGE HUNZINGER, of Brooklyn, N. Y.—*Improved Reclining Chair.*—Patent dated October 1, 1861.—This invention consists of a chair, provided with a swinging back and foot-board which may be connected by bars or hooks so as to elevate the foot-board when the back is depressed; the foot-board may also be used as a table, and the whole be packed in a small space for transportation.

Claim.—The combination of the X-shaped legs *a*, swinging back *c*, swinging foot-board *e*, and connecting bar or hook *d*, in the manner and for the purposes specified.

Also, the props 7 applied to the board *e* of the foot-board, in the manner specified, to convert the same into a desk or table when sustained by the buttons or latches 9 9, as set forth.

No. 33,393.—ALGERNON K. JOHNSTON, of Middletown, Conn., and LORENZO DOW, of Topeka, Kansas.—*Improvement in Envelopes for Cartridges.*—Patent dated October 1, 1861.—The claim explains the nature of this invention.

Claim.—As an article of manufacture, a cartridge, the envelope of which is made of gun-cotton, paper, or other fabric, as above subsequently treated as described, by an oxygenizing salt, and by a water-proof coating, as set forth.

No. 33,394.—WILLIAM H. LIVINGSTON, of New York, N. Y.—*Improved Method of Attaching Handles to Picks, &c.*—Patent dated October 1, 1861.—This invention consists in permanently securing to the upper end of the handle a metallic tube of the shape of the eye of the pick or other tube, which protects the wood from wear or compression. A cross key or lip setting within a mortise crosswise of the handle, and operated by a screw bolt and nut, serves to keep the handle in place and prevent accidents consequent upon the handle becoming loose.

Claim.—First, the metallic tube *c*, forming a protection or armor for the end of the handle *b*, and receiving the eye of the pick or mattock or other implement, in the manner and for the purposes specified.

Second, the band *d*, attached to the handle *b*, in combination with the metallic tube *c*, for the purposes and as specified.

Third, the bolt *e*, parallel with the handle *b*, and provided with the cross keys or lips *f*, to act against the rear side of the eye *a*, and retain the said eye on the tapering handle, as set forth.

No. 33,395.—ADAM LUCKHAUPT, of Columbus, O.—*Improvement in Wood-bending Machinery.*—Patent dated October 1, 1861.—This invention consists in the use of a form constructed of two pieces, so that the one to which the bent timber is attached may be removed by loosening keys or wedges between the two pieces; also, in the use of yielding blocks on the end of the bending strap to prevent crippling of the ends of the timber; also, in an arrangement of wooden springs and clamps to keep the timber in place and give it the desired form.

Claim.—First, the use of a wood-bending form constructed in two parts, with one or more wedges or keys interposed, for the purpose of loosening, from the stationary part of the form, the movable part with the bent timber attached, substantially as explained.

Second, in combination with a wood-bending strap E, the yielding blocks or abutments K, L-shaped arms I J, and cords X, or their equivalents, for the objects set forth.

Third, in combination with a wood-bending strap, the wooden springs H, and tension cords Z, arranged and operating substantially as and for the objects stated.

Fourth, the side clamps O O' P, applied and operating as set forth.

Fifth, in the described combination with permanent outer strap E and form B, or their equivalents, the detachable inner strap S, stretcher Q, shackle V, and tightening nut *m*, and key R, substantially as and for the objects stated.

No. 33,396.—GEORGE A. MANSFIELD, of Boston, Mass.—*Improvement in the Manufacture of Boots and Shoes.*—Patent dated October 1, 1861.—This invention is explained by the claim.

Claim.—Not the introduction of an intermediate metallic sole between the ordinary outer and inner soles of a boot or shoe for the purpose of preventing the transmission of cold and dampness, as that principle is already secured to William J. Lyman by a patent granted June 7, 1859; but the metallic guard or welt, constructed substantially as described, and extending either completely around the boot or shoe or being used only at the toe, or such other parts as may be liable to uncommon external wear and abrasion, said guard or welt being applied either to the outer edge of one of Lyman's metallic insoles or independently of the principle of his invention, merely extending inward a sufficient distance to receive the pegging, sewing, or nailing.

No. 33,397.—J. A. MARDEN, of Newburyport, Mass.—*Improvement in Let-Off Motion for Looms.*—Patent dated October 1, 1861.—The main object of this invention is to overcome the difficulty occasioned by the increase of tension during the unwinding of the warp from the warp beam, by means of an arrangement of a guide roller, bent rod, pawl, cam, and ratchet wheel. As the tension is increased, the guide roller is drawn down, and one of its journals, bearing upon the top of the bent rod, forces said rod down, a pawl resting upon this rod being also lowered. When the pawl is not actuated by the cam, the rod serves as a rest for, and limits the fall of, the pawl. Thus, any increase of tension of the yarn operates on the rod, and limits the fall of the pawl over the teeth of the ratchet wheel, so that it regulates the number over which the pawl is to fall; and, as the number is greater or less, the ratchet wheel will be revolved by the pawl a greater or less distance, and consequently more or less yarn is delivered from the warp beam to overcome the variation of the tension.

Claim.—The use of a roller having yielding or elastic supports for carrying the warp over it to the reeds, in combination with guiding or nipping rollers operating substantially as described, for the conveyance to the reeds of the filling, whether the same be of an elastic nature or not, the whole being arranged, in relation to the driving mechanism, essentially as shown and set forth.

Also, the peculiar construction and arrangement of the mechanism for automatically regulating the tension to the threads and yarns in a loom, the same consisting of the several devices specified, so arranged and combined as to operate in unison in the manner and for the purposes set forth.

No. 33,398.—L. H. MILLER, of Baltimore, Md.—*Improved Military Trunk.*—Patent dated October 1, 1861.—This invention relates to a trunk for camp or military purposes, which may be convertible into a dining table, writing desk, or cot bedstead, by means of various dispositions of sections and frames composing the trunk. Provision is made for the use of a sectional mattress, or of canvas in sectional pieces which are permanently attached to one side of the sections of the trunk, and when in use are hooked to opposite sides of the sections, the space underneath being filled with straw.

Claim.—In combination with the main sections *a b c* and *d*, and minor section *a'*, the frames *j* and *j'*, and their locking apparatus, constructed and operated in the manner and for the purpose set forth.

No. 33,399.—HENRY MORRISON, of Paterson, N. J.—*Improved Rest for Engine Lathes.*—Patent dated October 1, 1861.—This invention consists in the arrangement of a frame and

ring made in two or more parts with movable cams operated by a worm, and the same number of slides or bearings, so constructed that one portion may be readily removed and the work inserted and replaced ready for operation, without the use of other fastenings than those sufficient to hold the frame in place. By the above-described arrangement a self-centring rest can be used upon the necks of shafts, &c.

Claim.—The frame B B', made in two or more parts, the cam ring E E' similarly constructed, and the cams G, sliders or bearers D, so combined and arranged that the entire rest may be opened for the purpose of inserting and removing the work, substantially as specified.

No. 33,400.—A. N. OVERTON, of Knoxville, Iowa.—*Improvement in Composition to be applied to Grain to Prevent Smut.*—Patent dated October 1, 1861.—Blue vitriol and common salt are pulverized and mixed together in equal parts, and the composition is then subjected to a dry heat of a high temperature for a certain length of time, when it is dissolved in tepid water. The grain is then put into the solution and stirred well until all of the smut and refuse have risen to the top.

Claim.—The composition of the blue vitriol and common salt prepared in the manner described, for the purpose of exterminating and preventing smut.

No. 33,401.—ROBERT P. PARROTT, of Cold Spring, N. Y.—*Improvement in the Manufacture of Ordnance.*—Patent dated October 1, 1861.—This invention consists in the method of shrinking the reinforce on the body of the gun, whereby the heating and expansion of the body by heat communicated to it from the reinforce is prevented, and the reinforce is caused to be drawn equally close all round the body. That portion of the body which receives the reinforce is made of a slightly larger diameter than that of the interior of the reinforce when cold. The gun is placed upon suitable supports or bearings, so that it can be rotated upon its axis as the reinforce is applied, and a pipe is introduced through the nozzle for the purpose of conveying a constant supply of cold water to the bottom of the bore.

Claim.—The mode described of shrinking the wrought-iron reinforce upon the cast-iron body of a piece of ordnance; that is to say, by rotating the body while water is introduced into the bore.

No. 33,402.—A. H. PLATT and W. S. ROSECRANS, of Cincinnati, O.—*Improvement in Lamps.*—Patent dated October 1, 1861.—In a tube-plate is inserted a series of concavo-convex tubes which converge at their upper ends, the lower ends being separated to allow a free passage of air. Surrounding these tubes is a metallic cone, and at the lower end of each tube is a small serrated wheel whose axes pass through the cone so as to admit of the wicks being raised and lowered. Within the space enclosed by the tubes is placed a metallic deflector of the form of an inverted cone, extending upward even, or nearly so, with the ends of the tubes.

Claim.—The combination of the concentric tubes *a a*, converging upward, and the deflector *d*, having the form of an inverted cone, substantially in the manner and for the purpose specified.

Also, the arrangement of the separate serrated wheels *b b*, extending respectively from the tubes *a a* outward just through the cone A, in combination with said tubes and cone, substantially as described.

No. 33,403.—A. H. PLATT and W. S. ROSECRANS, of Cincinnati, O.—*Improved Scale, or Weighing Apparatus.*—Patent dated October 1, 1861.—This invention consists in the application to the balance beam of one or more graduated sliding bars, one of which engages with a pinion; this pinion turns upon a perpendicular axis, the upper end of which passes through the centre of a dial-plate, and has attached to it an index, so as to indicate upon it all the subdivisions of a pound or other unit as often as the bar is extended a distance sufficient to balance a pound upon the platform. When net weight is required the container is placed upon the platform, and the bar not connected with the pinion is extended until it is balanced; the article is then placed in the container and the other beam extended until the whole is balanced; and this bar, with the index attached to it, indicates the net weight.

Claim.—The employment of the separate tare poise bar D, in combination with the balance beam B and weighing poise bar C, which has two or more different graduations, so as to weigh according to as many different systems of weights at the same time, substantially as specified.

No. 33,404.—B. C. SMITH, of Burlington, N. J.—*Improvement in Railroad Coupling Chairs.*—Patent dated October 1, 1861.—This invention consists in the use of two cast-iron plates, each furnished with a projecting rib. The upper edge of the projecting rib of the lower plate bears against the shoulder under the upper portion of the T of the rail, while the lower T fits snugly into a recess formed in the inclined rib. An oblong recess in this lower plate is provided for the reception of the plate on the other side of the rail. This latter plate has a recess and edge corresponding to those on the first-mentioned plate for the reception of the rail. A key, fitting into another recess in the latter plate, secures the whole together.

Claim.—The cast-iron chair composed of the plate B, with its rib C and the sliding plate

D, with the corresponding rib, when the two plates are constructed, arranged, and secured together and adapted to each other and to the rails, substantially as and for the purpose set forth.

No. 33,405.—MATTHEW SMITH, of Pittsburg, Pa.—*Improvement in Machines for Crushing and Pulverizing Vegetable and Mineral Matter.*—Patent dated October 1, 1861.—The nature of this invention is explained by the claim.

Claim.—The use of two drums of different diameters, one placed inside of the other, and both running in the same direction, with the shaft of each placed on a different plane, when said drums are used for crushing and pulverizing, as described and set forth.

No. 33,406.—JOSEPH THOMAS, of New York, N. Y.—*Improvement in Water Meters.*—Patent dated October 1, 1861.—The measuring vessels consist of two cylindrical bellows, both fixed to a single movable partition, to which are attached stops which actuate a lever. This lever, in connexion with a double incline roller and spring, operates a four-way cock, by which the bellows are alternately filled and emptied. The index may be attached to the lever or stops.

Claim.—The stops or projections I′ I″, carried by a movable partition I, on slide *i*, double incline L L′, roller M, and spiral spring *m*, or their respective equivalents, arranged and operating substantially as and for the purposes set forth.

No. 33,407.—OTIS TUFTS, of Boston, Mass.—*Improvement in Railroad Wheels and Axles to Run on Different Gauged Tracks.*—Patent dated October 1, 1861.—This invention consists in constructing the wheel in two parts, the central section or hub being fast to the axle, and the outer section having the flange thereon being made to slide on this central section. A conical disc is secured to the outer section bearing the flange, and to a supplementary hub. This hub is worked back and forth by means of a female screw-thread, into which works a screw-thread surrounding the axle.

Claim.—First, constructing railroad car wheels in two divisions, substantially in the manner and for the purposes set forth.

Second, the cylinder *e*, circumscribing the axle between the wheel hubs, with right and left handed screw-threads and double-acting pawls, for the purposes set forth.

Third, the circular wedge *o*, or its equivalent, for tightening the outer division of the wheel upon its central division.

Fourth, the mechanism described for actuating the ring or wedge *o*, substantially as specified.

No. 33,408.—R. G. TURNER and S. B. ROBINSON, of East Dedham, Mass.—*Improvement in Machinery for Washing Wool.*—Patent dated October 1, 1861.—This invention consists in the employment of an elongated tub with curved ends, and provided with a central longitudinal partition, upon one side of which is arranged a rotating paddle. The rotation of the paddle causes the water and wool to circulate around the tub, by which means the wool becomes cleansed. A frame containing an endless apron is then lowered, and motion being imparted to the apron, the washed wool is carried up from the tub to pressure rollers which express the water, and the wool is carried off from the top of the tub by an endless discharging apron.

Claim.—The combination of the novel or elliptical tub A, provided with the partition B, the rotating paddle C, adjustable endless carrying apron H, pressure rollers I I, and endless discharging apron K, all arranged substantially as and for the purpose set forth.

No. 33,409.—PIERRE D. VAN HOESEN, of New York, N. Y.—*Improvement in Clothes Wringing Machines.*—Patent dated October 1, 1861.—This device is secured to the tub by means of a hinged jaw and thumb screw. In the upper part of the holder is a recess or cup for holding the soap. Upon the end of the shaft, and at right angles with the same, is secured a pin for holding the clothes to be wrung. This pin is covered with an India-rubber tube for preventing injury to the clothes from the action of the pin.

Claim.—The arrangement of the hinged jaw B, screw C, and cup *h*, with the stand A, shaft D, and rubber-covered pin E, all as shown and described.

No. 33,410.—RODNEY WELCH, of Worth, Ill.—*Improvement in Corn-Planters.*—Patent dated October 1, 1861.—This invention consists of a portable vessel, provided with a conical bottom, through which slides a stamper; the stamper has a recess near its end which receives a few grains of corn from the vessel, when it is carried by the handle, and when the vessel is placed on the ground and the stamper thrust into the ground, the seed is deposited from the recess.

Claim.—The combination of a shifting handle, furnished with a recess as described, and a receptacle with a conical bottom, arranged in the manner and for the purpose specified.

No. 33,411.—OLIVER D. BARRETT, of Fulton, N. Y., assignor to Himself and STEPHEN E. LANPHEAR, of Cleveland, O.—*Improved Clothes-Wringer.*—Patent dated October 1, 1861.—This invention consists in making the uprights in which the rolls bear, and the top

pieces connecting them, serve as springs, and causing them to exert their pressure on the rolls by means of a screw.

Claim.—The arrangement of the springs B B B B and C C, in combination with the rollers D D, and the screw E, substantially as and for the purpose specified.

No. 33,412.—SAMUEL S. BENT, of New York, N. Y., assignor to Himself and THOMAS BENT, of the same place.—*Improvement in Fire-place Heaters.*—Patent dated October 1, 1861.—This invention consists in an arrangement of heating pipes, applied in a chamber from which air passes to rooms above, in combination with a grate surrounded by a metallic case, provided with a register or opening in its upper surface.

Claim.—First, the metallic case *o*, provided with the register *q*, or openings upon its upper surface, and containing the heating pipes as set forth, when the same is introduced in the chimney behind, and combined with the grate *a*, in the manner and for the purposes specified.

Second, the openings *e'*, in the metallic back of the grate, protected by and covered with soapstone or fire-brick lining *e*, in contact with the back of said lining *e*, whereby said lining does not become so excessively hot, and the circulating and warming air is increased in temperature, as set forth.

No. 33,413.—WILLIAM H. BIRDSELL, of Elizabethport, N. J., assignor to Himself and ELI KELLAM, of the same place.—*Improved Tackle Block Hook.*—Patent dated October 1, 1861.—This invention consists of a swivelling hook, secured in position by a ratchet, which is tripped by a cord; and also in the use of a mousing pin which, when in place, prevents the ratchet from being tripped.

Claim.—First, the tripping ratchet C, in combination with the hook B, substantially in the manner described and for the purpose specified.

Second, the mousing pin D, in combination with the tripping ratchet C, and the hook B, substantially in the manner described and for the purpose specified.

No. 33,414.—LOUIS BOLLMAN, of Boston, Mass., assignor to GROVER AND BAKER SEWING MACHINE COMPANY, of the same place.—*Improvement in Sewing Machines.*—Patent dated October 1, 1861.—Patented in England February 18, 1861.—This machine is designed for making the double looped stitch. The hook has a thin lancet-shaped point to seize the looped thread, and a flange to spread the loop so that it may pass over the lower thread post, and a spring which nips loops of thread against the side of the hook so that the hook in retreating may pull a loop over the thread post, and, consequently, over an angle or bend of lower thread. The upper thread from the spool passes through a tension apparatus, thence through a leading eye, and then through the eye of the needle. The needle descends between that part of the lower thread leading from the post to the cloth, and the loop is then passed over the thread post, and does not descend below the cloth until the loop is cast over said post. The seizing and spreading of each loop draws up the slack loop that has just been released by the hook and slipped over the post, thus tightening each stitch in succession.

Claim.—The combination, substantially as described, of a vibrating hook, a lower thread post, and an eye-pointed needle, operating in conjunction, substantially as specified.

No. 33,415.—LOUIS BOLLMAN, of Boston, Mass., assignor to GROVER AND BAKER SEWING MACHINE COMPANY, of the same place.—*Improvement in Sewing Machines.*—Patent dated October 1, 1861.—Patented in England November 24, 1860.—This invention is designed to overcome defects incident to the operation of shuttle machines, and consists in combining a seizing and detaining hook, with a shuttle and an eye-pointed needle; also in combining a loop stop with an eye-pointed needle. The shuttle driver, seizing and detaining hooks, are attached to the hook stock. The detaining hook is shaped so as to detain or control loops of needle thread, and its end rests upon a piece of metal secured in the shuttle in such a way as to prevent the point of the shuttle from rising. The shuttle has a projecting pin which underlies the hook and holds the heel of the shuttle down. There are two loop stops formed of one piece, their points being within the plane of the hook. The loop stop aids the seizing hook to spread widely loops of needle thread that have been seized, and tightens the slack loops of needle thread that have been traversed by the shuttle.

Claim.—First, the combination of these four elements or parts of a sewing machine, viz: first, an eye-pointed needle; second, a seizing hook; third, a detaining hook; and fourth, a shuttle, all reciprocating and all substantially such as described, intending to claim none of these parts separately, but only in combination and acting conjointly, substantially as set forth.

Second, in combination with an eye-pointed needle and a seizing hook, acting substantially as specified, a loop stop, substantially such as described, and acting to aid a seizing hook in spreading loops of needle thread, substantially in the manner specified.

No. 33,416.—LAMBERT ERPELDING, of Chicago, Ill., assignor to CYRUS H. MCCORMICK, of the same place.—*Improvement in Reaping and Mowing Machines.*—Patent dated October 1, 1861.—This invention consists in making an arm by which the caster wheel is attached to the grain side of the machine, with a horizontal adjustable joint to facilitate the raising and lowering of the cutting apparatus, and a free vertical joint to facilitate the turning of the

machine, so that, by increasing or diminishing the flexure of the arm, the height of the grain side of the machine and the corresponding end of the cutting apparatus may be allowed to rest on, or be set at different heights above the ground, while the free joint allows the wheel to run tangentially to any curve in which the machine turns.

Claim.—The combination of a caster wheel and an arm having a freer joint and an adjustable elbow for supporting the grain side of reaping or mowing machines, substantially as described.

No. 33,417.—EDWARD HENNESSEY, of Waterville, Me., assignor to CYRUS BRETT, of Strong, Me.—*Improved Spring Bed-Bottom.*—Patent dated October 1, 1861.—Slats are connected by elastic loops to the end rails of the bedstead throughout their entire width. The elastic bands are secured in the loops by means of keys cemented in their tubular ends. Double hooks are attached to the rails, and rods connect the elastic bands to the hook.

Claim.—First, securing the elastic bands B B to the slats A by means of keys *d* fitted in tubes c at the outer ends of metallic loops C attached to the slats, substantially as described.

Second, connecting the elastic bands B to the rails E of the bedstead by means of the double hooks D and the rods *f*, as set forth.

No. 33,418.—THEODORE F. KUMS, of Rockford, Ill., assignor to MARY MANNY, of the same place.—*Improvement in Automatic Rakes for Harvesting Machines.*—Patent dated October 1, 1861.—This invention relates to mechanism to enable the rake to travel in a complex path positively and directly, *with little use* of sliding guides and comparatively little friction. The invention does not admit of a brief description.

Claim.—First, the combination of the vibrating levers X Y, the support T, and a rake i, substantially as described, whereby the rake is caused to describe a complex path to gather, compress, and discharge the grain by a positive motion, substantially as described.

Second, the combination of the tail-piece U, or its equivalent, the curved projecting arm *f*, or its equivalent, and the rake, in the manner and for the purposes substantially as specified.

Third, the combination of the lever *d*, guide-bar *m*, and the rake, arranged and operating substantially as described.

Fourth, the notched head *k*, or its equivalent, on the rake-handle *e*, in combination with the lever *d* that gives motion to the rake-handle, substantially as described.

No. 33,419.—THEODORE F. KUMS, of Rockford, Ill., assignor to MARY MANNY, of the same place.—*Improvement in Automatic Rakes for Harvesting Machines.*—Patent dated October 1, 1861.—Reference to the specification and drawings will be necessary for an understanding of this invention.

Claim.—The raking mechanism, constructed and operating substantially as described.

No. 33,420.—THEODORE F. KUMS, of Rockford, Ill., assignor to MARY MANNY, of the same place.—*Improvement in Automatic Rakes for Harvesting Machines.*—Patent dated October 1, 1861.—This invention consists in operating a rake moving in a complex path across the platform of a reaping machine *without* the use of sliding guides to determine its path, and without other friction than that of the pivot joints for uniting the various parts.

Claim.—First, the combination of the diagonal link W, the connecting link F, and the vibrating arms J and K, or their equivalents, substantially as described and for the purposes specified.

Second, the combination of the diagonal link W, the connecting link F, and rocking pin T, or their equivalents, substantially as and for the purposes described.

No. 33,421.—ROBERT WHITMAN, of Accrington, England, assignor to JOSEPH LOCKETT and ROBERT LEAKE, jr., of Manchester, England.—*Improvement in Pantograph Machines.*—Patent dated October 1, 1861.—This invention consists in the general application to any pantograph machine of machinery or apparatus for holding steel or other metallic surface intended for a die, and acting upon it in the same manner as the copper roller is operated upon in a pantograph machine, so as to enable a part of the design to be engraved by mill in the ordinary manner and the other part by pantograph.

Claim.—The application of the peculiar arrangement of machinery or apparatus (described and illustrated in the accompanying two sheets of drawings) for holding steel or other metal surfaces intended for dies in the same or a similar position as the copper or other metal rollers employed in printing calicos or other surfaces are now held in all pantograph machines, so that the dies will receive on their surfaces designs in every respect the same as would otherwise be imparted to such copper or other metal rollers, as aforesaid.

No. 33,422.—ISAIAH M. WILLIAMS, of Blanchester, O., assignor to Himself and WILLIAM P. WOLF, of the same place.—*Improved Method of Operating Churns.*—Patent dated October 1, 1861.—This invention consists in the use of an oscillating platform for receiving the churn, together with a pedal apparatus for imparting motion thereto.

Claim.—Imparting to the churn X an oscillating motion by means of the platform or table B and pedal F, or by using the hand-lever L, substantially as set forth.

No. 33,423.—WILLIAM E. and H. G. ARNOLD, of Rochester, N. Y.—*Improved Sash and Blind Fastener.*—Patent dated October 8, 1861.—This invention consists in so constructing and arranging a sliding back to a box with a bolt or slide, or both, as to form a combined fastener and back without necessarily complicating the former by the latter, while the latter requires only the particular key belonging to it to form a safe and reliable lock; also, in the use of an adjustable slide with a cog or cam on each edge, one longer than the other, so as to have it hold the bolt firmly when down, or let it be as easily pressed inward and upward.

Claim.—The construction and arranging of the sliding back or backs L, in combination with the box A and key or keys, for the purpose of locking the bolt B or slide C, or their equivalent, either down or up, substantially as set forth and described.

Also, the adjustable slide C, when combined and arranged with the box A and bolt B, so as at pleasure to hold the bolt B firmly when down, or let it be easily pushed inward and upward by a pressure on the outer end, substantially as described.

No. 33,424.—J. W. BARKER and J. P. HASKIN, of Syracuse, N. Y.—*Improved Mode of Removing Impurities from Manufactured Salt.*—Patent dated October 8, 1861.—The chloride of magnesium or calcium, or both of these chlorides, are removed from common salt by washing it in a saturated brine in which is dissolved an amount of carbonate or bicarbonate of potash or soda chemically equivalent to the quantity of said chlorides contained in the salt.

Claim.—The mode of decomposing the impurities in manufactured salt by immersing or washing it in a solution of the carbonate or bicarbonate of potash or soda in saturated brine, as set forth, through which means the chemical results stated are produced.

No. 33,425.—GEORGE C. BARNES, of Battle Creek, Mich.—*Improvement in Saw-Mills.*—Patent dated October 8, 1861.—To the bed or frame of the mill is hinged a frame in such a manner that one end may be made to rise and fall when desired. The journals of this frame play in hollow journals, through which passes a shaft, which is used as the feed-shaft of the mill. A band from this shaft passes around the mandrel-shaft, so that when the hinged frame is raised or its position changed, the feed-shaft will always stand in the same relative position to the mandrel.

Claim.—The employment of the adjustable frame B, with saw-mandrel secured in it, with the feed-shaft D passing through the hollow journals of said frame B, arranged and operating as and for the purpose specified.

No. 33,426.—THOMAS B. BUTLER, of Norwalk, Conn.—*Improvement in Machinery for Forming Belts for Felt Cloth.*—Patent dated October 8, 1861.—This invention consists in attaching the roll at the end of the side apron to a movable frame or carriage running on trucks over and parallel with the main apron, and geared to move with that apron while the weft is being deposited on the warp, and at such relative speed as the desired angle at which the weft is to be laid may require, and having a pinion on each end of the roll gear into a double rack on the movable carriage-frame, whereby, and with the revolution of the roll by the revolving apron, an alternate traverse movement of the roll and apron across the warp apron is effected for the deposition of the weft.

Claim.—First, the travelling-carriage E E E E, constructed and operating in the manner and for the purpose set forth.

Second, the double rack *g g* and the pinion *f* on the apron-roll *j*, or their equivalents, for traversing the roll *j* across the main apron C, in the manner and for the purpose set forth.

No. 33,427.—H. S. CALENBERG, of New York, N. Y.—*Improvement in Piano-forte Action.*—Patent dated October 8, 1861.—A detached elastic lever in connexion with the hammer shank and the jack, returns the jack into the notch of the hammer, so as to permit of a very rapid repetition of the blow of the hammer.

Claim.—The detached elastic repeating lever G, arranged relatively to the hammer and jack, upon a fixed fulcrum *d*, and operating substantially as described.

No. 33,428.—EDWARD and E. D. DITURIDGE, of Pittsburg, Pa.—*Improved Lamp Chimney.*—Patent dated October 8, 1861.—This invention consists in making a lamp chimney with a round base and top, and an oval-shaped bulge, so as to adapt it to the round mounting of lamps which use flat wicks, and so as to bring the air equally in contact with the blaze.

Claim.—A new article of manufacture, consisting of a lamp chimney with a round base and top, and an oval-shaped bulge, arranged and constructed as described, for the purpose set forth.

No. 33,429.—B. C. ENGLISH, of Hartford, Conn.—*Improvement in Cartridge Cases.*—Patent dated October 8, 1861.—This invention consists in providing an India-rubber cartridge case with a metallic bushing at the vent or point of ignition, for the purpose of preventing the cartridge case from being rendered unserviceable by the enlargement of the vent consequent upon the action of the fire at every discharge.

Claim.—The application and use of a metallic bushing to the India-rubber cartridge case patented by Gilbert Smith, (patent 17,702,) for the purposes described and set forth.

No. 33,430.—HENRY FEYH, of Columbus, O.—*Improvement in Hose Coupling.*—Patent dated October 8, 1861.—One of the ends to be connected is fitted into a flange of a thimble which screws over a thread on the other butt or end, and the thimble is screwed back on the latter butt as far as possible. A ledge on the former butt will come in contact with a packing in the groove in the latter butt, so that the first butt will be prevented from moving laterally out of the flange, while a lip on said flange prevents longitudinal detachment.

Claim.—The combination of the semi-flanched adjusting thimble C, constructed substantially as shown, with the butts A B, as set forth.

No. 33,431.—Suspended.

No. 33,432.—ELISHA FITZGERALD, of New York, N. Y.—*Improvement in Mixing Dough.*—Patent dated October 8, 1861.—This invention consists in forcing the paste into a receiver against the pressure of carbonic acid gas contained therein, which is incorporated with the paste during the mixing. The necessity of opening the receiver by which the atmospheric air would be admitted is thus avoided.

Claim.—Forcing the paste into the receiver A, against the pressure of the gas, substantially as described and set forth.

No. 33,433.—E. HEATON and J. L. JOYCE, of New Haven, Conn.—*Improvement in Boots and Shoes.*—Patent dated October 8, 1861.—This invention consists in the use of a shank of metal or other suitable material, attached directly to the in-sole without the intervention of an out-sole, and dispensing with all the shank leather.

Claim.—A shank constructed of metal or other sufficiently rigid material, impervious to moisture, and applied to the uppers of boots and shoes independently of the heel and sole, and without an out-sole, substantially as described.

No. 33,434.—JOHN ADAM HEYLE, of Boston, Mass., assignor to Himself and JOHN O'BRIEN, of the same place.—*Improvement in Self-Acting Switches for Horse Railroads.*—Patent dated October 8, 1861.—A curved depression is made in the top of one of the rails, so that the car following the draught line or direction taken by the horse, may either pass above the depression on said rail or be switched off to the other rail by means of said depression, there being a space on the opposite rail to allow a lateral slide thereon, corresponding to the curve of the depression on the former rail.

Claim.—First, the curved depression 1 2, in rail A′, constructed and operating substantially as described.

Second, in combination with the curved depression 1 2, the depressions 6 7, in flange P and 8 9, in rail B′, substantially as and for the object specified.

Third, the depressions 5 6, in flange P, and 3 4, in rail A, and the space X, substantially as and for the object specified.

No. 33,435.—BENJAMIN F. JOSLYN, of Worcester, Mass.—*Improvement in Fire-Arms.*—Patent dated October 8, 1861.—This invention is particularly applicable to fire-arms which have been constructed to load at the muzzle, and are to be afterwards converted into breech-loaders, and consists in the use of a breech-piece hinged so as to swing over to one side, and which, when thus swung over, exposes the rear of the bore of the barrel to admit the cartridge; and when in place is held from moving longitudinally by a projection which fits into a notch in the tongue at the rear of the barrel. The breech-piece is held in place by a pin which springs into a notch made to receive it.

Claim.—First, the breech B, hinged to the end of the barrel and constructed substantially as set forth, so as to fit over the enlargement *e*, on the end of the barrel in the manner and for the purpose specified.

Second, forming a notch in the tongue *a*, near its junction with the enlargement *e* of the barrel, and so forming the lower end of the portion *i* of the hinged breech that it shall fit to the notch as well as on each side of the tongue, as and for the purpose set forth.

Third, the hinged breech with its projection *k*, in combination with the bent spring *m*, and its pin *n*, the whole being arranged as set forth for the purpose specified.

No. 33,436.—EDWARD G. KINSLEY, of Stoughton, Mass.—*Improvement in Flexible Soles.*—Patent dated October 8, 1861.—This invention consists in placing a series of open metallic plates connected together over an outer sole of India-rubber or like material, and screwed together. The surface of the flexible sole projects through and between the said plates.

Claim.—The series of metallic plates B C D and E, in combination with rubber sole A A′, the whole being constructed and arranged substantially in manner as described.

No. 33,437.—NOYES D. LAMB, of Norwich, Conn.—*Improvement in Air Whistles.*—Patent dated October 8, 1861.—This invention relates to a whistle operated by air passed into it from the mouth, and consists of a mouth-piece, a cylinder or receiver fastened by bolts to the sounding plate, and a sounding cup secured by a standard to the sounding plate. An aperture extends entirely around the sounding plate, allowing the air passed into the receiver to escape into the sounding cup

Claim.—Letting the air into the receiver B, without the hollow perforated tube, as described, for the purpose of giving marine signals by sounds, in the manner set forth.

No. 33,438.—CALVIN B. LAWRENCE, of Nunda, N. Y.—*Improvement in Metallic Lubricating Compositions.*—Patent dated October 8, 1861.—This invention consists in mixing regulus of antimony, finely pulverized, in about equal parts with any kind of animal, vegetable, or mineral oil, by which it forms a body of about the consistence of paste, which may be diluted by adding thin oil of any kind.

Claim.—The combination of antimony with any oleaginous substance, substantially as set forth and for the purposes specified.

No. 33,439.—T. E. MARBLE, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated October 8, 1861.—This invention consists in an attachment to the hook of a gradual let-off, that causes the looper to retain the old loop for about a full revolution from the first entry of the hook, and till said old loop is fully, or nearly so, drawn up, or tight against the cloth by the action of the hook and needle on the new loop, and which retainer of the old loop exercises a tension on the latter in accordance with the action on it through the new loop of the hook or looper.

Claim.—In a combination of an eye-pointed needle and revolving hook or looper, used either in a single or double-thread sewing machine, providing said hook or looper with a loop retainer or tension let-off, so constructed and applied as that it holds on to and controls the loop till it is drawn up by the action of the hook or needle, or both hook and needle, essentially as set forth.

No. 33,440.—THOMAS J. MAYALL, of Roxbury, Mass.—*Improvement in Boot and Shoe Tips.*—Patent dated October 8, 1861.—The claim and engravings explain the nature of this invention.

Claim.—The compound boot or shoe tip, made substantially as described, by forming it of rubber or rubber-coated cloth braced by and united with a cross web of linen, or its equivalent, essentially as and for the purpose or purposes set forth.

Also, thinning or gradually reducing the rubber tip at or toward its junction and finish with the cross web of the tip, substantially as shown and described.

No. 33,441.—S. T. MCDOUGALL, of Brooklyn, N. Y.—*Improved Washing Machine.*—Patent dated October 8, 1861.—This invention consists in the employment of frames, arranged in a suitable receptacle for the clothes and water, which frames have a vibrating or reciprocating motion imparted to them by cranks, so as to cause the frames to act on the clothes. These frames are filled with rows of balls arranged on rods so as to revolve freely thereon, with one or more slats between.

Claim.—First, the employment of the frames F and H, arranged in the tub A, and having the reciprocating and vibrating motions imparted to them, respectively, by means of the cranks 2 2 4 4, through the agency of the pitmans and rods, or equivalent mechanism, all arranged and operating substantially in the manner specified.

Second, the peculiar construction of the frames, as set forth, with balls and slats alternately arranged therein, substantially as described.

No. 33,442.—SAMUEL MCQUISTON, of Morris, Ill.—*Improved Corn-Sheller.*—Patent dated October 8, 1861.—Below the shelling mechanism and at about the centre of the case is placed a shoe, to which a side shake motion is imparted. The riddle or shoe is inclined towards one side of the machine, and serves to separate the corn and the cobs, which are conducted to the riddle by inclined boards attached to the side of the frame. The cobs are discharged over the side of the machine, and the corn drops through the riddle upon inclined chutes, when it is carried up by an elevator to a discharging spout.

Claim.—The shoe E, discharging the cobs transversely of the planes of the wheels, when combined with a tight upper casing A, inclined boards *g g h h*, elevator H, and discharging spout I, arranged and operating in the manner and for the purposes set forth.

No. 33,443.—GEORGE H. MELLEN, of Hartford, Conn.—*Improvement in Filtering Stopper.*—Patent dated October 8, 1861.—The object of this invention is to combine in one article a filter and a stopper, to be used in a canteen or other vessel. The stopper is made hollow, with a perforated plate at each end, and in this hollow space is placed charcoal, felt, and sponge.

Claim.—A filter and stopper combined in the manner and for the purpose described.

No. 33,444.—B. F. MILLER, of New York, N. Y.—*Improved Bake Pan.*—Patent dated October 8, 1861.—This invention consists in dividing a bake pan into two portions, the division plate being perforated as well as the sides and cover of the pan, so as to afford a free circulation of air.

Claim.—The application of perforated metallic plates or wire gauze and earthenware structures, as described, for the purpose of constituting the bottom and, when desirable, the sides

of the "baking pan or dish," and the same kept from contact with the bottom or floor of the oven.

Also, in combination with the aforesaid structures, a perforated metallic or sieve-like cover or lid, as set forth and described.

No. 33,445.—MERRITT P. MORGAN, of Scott N. Y.—*Improvement in Straw-Carriers for Threshing Machines.*—Patent dated October 8, 1861.—This invention consists in hinging the carrier to the machine, and raising and lowering the same by means of cords operated by a windlass, by which means the poles or standards usually used to support the carrier are dispensed with.

Claim.—An improved method of raising and supporting the straw-carriers of threshing machines by means of the windlass F, standards D D, and ropes I I, or their equivalents, combined and arranged substantially as and for the purpose shown and described.

No. 33,446.—JOHN W. NYSTROM, of Philadelphia, Pa.—*Improvement in Furnaces for the Manufacture of Iron and Steel.*—Patent dated October 8, 1861.—This invention consists in the construction of a barrel furnace in which one or more tuyeres are arranged at such an angle in relation to the curved bottom of the furnace, that the blast shall be tangent, or nearly so, to the said bottom, and cause the molten mass to be agitated by passing along the interior or concave surface of the furnace. The barrel furnace is provided with a friction strap for the purpose of firmly holding and preventing shaking of the furnace during the operation of decarbonization. A flue or chimney unites the barrel furnace with the cupola or blast furnace, so that particles of iron carried off with the air or gases may be returned to the furnace and again utilized.

Claim.—First, the construction and arrangement of furnaces capable of rotation upon a horizontal axis, and having tuyeres so arranged in an inclined position that the blast enters the molten iron tangentially or nearly so, to the curved bottom of such furnaces.

Second, the combination with a barrel furnace constructed and arranged essentially as described, of a front plate capable of removal, substantially as and for the purpose set forth.

Third, providing a barrel furnace arranged and operated as described, with a friction strap or its mechanical equivalent, to firmly hold and prevent shaking of the furnace during the operation of decarbonization, substantially as set forth.

Fourth, in combination with a furnace capable of rotation as described, and provided with a mouth for the reception of the molten metal from the cupola, the side chimney on the cupola so arranged that the said mouth shall come in juxtaposition with and convey the gases to the chimney as described.

Fifth, so forming and arranging the outlet of a barrel furnace, constructed and operated as described, so that it shall occupy, when the furnace is in position to be emptied, the lowest part of the concave bottom.

No. 33,447.—A. ODEL and WILSON A. BURROWS, of New York, N. Y.—*Improvement in Lamps.*—Patent dated October 8, 1861.—This invention consists in adjusting on the gas pipe or other fixture, a conical reflector just below the jet of light, and combining therewith a concave reflector placed above the burner, so that the ascending rays of light therefrom striking against it, will be reflected down upon the conical reflector, the sides of which are made at such an angle as to project the impinging rays of light in horizontal lines.

Claim.—The use of the combination of the burner or pipe *a*, conical reflector *b*, and concave reflector *d*, and equivalents, when used for the same purposes described and in like combination.

No. 33,448.—STEPHEN J. PATTERSON, of Bridgeport, Conn.—*Improvement in Apparatus for Tanning.*—Patent dated October 8, 1861.—This invention consists in placing on the top of the vat containing the tanning liquor, a rocking frame containing slats upon which the hides are hung, so that they may remain suspended in the liquor and agitate it whenever the rocking frame is kept in motion; the liquor is still further agitated by paddles attached to the rocking frame.

Claim.—First, attaching to the top of a tanner's vat a frame hung upon its centre substantially as described, so arranged and constructed that the hides to be tanned may be suspended from said frame, and may be set in motion by rocking said frame upon its centre.

Second, also in combination with the rocking frame the paddles I I, substantially as and for the purpose described.

No. 33,449.—ABRAHAM P. QUACKENBUSH, of Brooklyn, N. Y.—*Improved Washing Machine.*—Patent dated October 8, 1861.—This invention consists in the use of a revolving rubber, in the periphery of which fixed cylinders and freely revolving rollers are distributed, in combination with a concave composed of freely revolving rollers.

Claim.—The construction and use in washing machines of a rubber or wheel having fixed cylinders c, equal in size and in distance from the centre to the rollers E, and alternating with the latter or with pairs or triplets thereof as shown, in combination with rollers D, so mounted as to form a concave for the purpose above set forth.

No. 33,450.—RILEY ROOT, of Galesburg, Ill.—*Improvement in Clarifying Cane Juice.*—Patent dated October 8, 1861.—The claim explains the nature of this invention.

Claim.—The use of native clay as an agent for clarifying Chinese and other cane juices, substantially as specified.

No. 33,451.—JEREMIAH ROHRER, of Middletown, Pa.—*Improvement in Bee-Hives.*—Patent dated October 8, 1861.—This invention consists in making an air chamber beneath the working chamber, by which the comb is protected from moisture in damp weather. Also in constructing air spaces around the several chambers of the hive, and providing apertures and ventilating and cut-off slides, for the purpose of maintaining an equable temperature at all seasons, securing perfect ventilation and affording a protection against vermin.

Claim.—First, the combination of the air chamber C, working chamber B, provided with the ventilating and cut-off slides and apertures F *m n n g g j k*, air spaces *o p q r*, and ventilator I, all arranged in the manner and for the purposes described.

Second, the combination with the working chamber B of the ventilator F, which consists of an oblong slot *b*, perforated plate *m*, the divided slide *n n*, the whole being arranged on the front of the working chamber B and within the outer casing A, in the manner and for the purpose described.

Third, the combination with the working chamber B and stop pins *k* thereof of the slides *g*, which are perforated and have a notch *j* in one of their edges, in the manner and for the purpose described.

No. 33,452.—CHARLES RICHARDSON, of Auburn, N. Y.—*Improved Machine for Rolling Horse-Shoe Iron.*—Patent dated October 8, 1861.—In this machine the rolls are constructed with grooves of such a form as to roll the bar of iron into a shape that when bent into the form of a horse-shoe the inner side of the same shall be convex. The rolls are also provided with creasers for creasing the iron, and with pointers for marking the length of each blank.

Claim.—So shaping the grooves in the rolls as to roll out a bar of the form in cross section, as that shown in Fig. 5, and filling out the slack corner between the points 2 3 by the after creasing of said bar, for the purpose and in the manner set forth.

No. 33,453.—HENRY E. RICHARDS, of Newark, N. J.—*Improvement in Coffee-Roasters.*—Patent dated October 8, 1861.—This invention consists in the use of a metallic retort heated by a furnace beneath, the flame passing entirely round it at the sides. A perforated cylinder containing the coffee revolves in this retort, the perforations being made with burrs inside so as to catch and cause the coffee to partially revolve with it. A pipe leads from the top of the retort outside to the bottom; from this pipe extends another pipe leading to the chimney in which is a damper, which is opened during the first stage of roasting so as to allow the deleterious gases to pass off, but is shut when the aroma is given off from the coffee. This aroma enters the pipe and is led to the bottom of the retort for the purpose of impregnating the coffee.

Claim.—First, the combination and use of the pipe X and the retort D, substantially in the manner and for the purposes described.

Second, the combination of the canister E, retort D, and pipe X, substantially in the manner and for the purposes described.

No. 33,454.—DANIEL SHEETS and JOHN B. PRESSEY, of Buffalo, N. Y.—*Improvement in Mining Picks.*—Patent dated October 8, 1861.—This invention consists in the use of a removable shank as a means of fastening the pick-blade to its handle, so constructed that it may pass through the eye of the pick-blade and be securely held therein by its larger end, while its smaller end shall pass into the pick handle and be keyed or otherwise fastened thereto.

Claim.—First, the removable shank B, as a means of connecting and fastening the pick-blade to its handle, substantially as described.

Second, the combination of the removable shank B with the pick-blade A, socket D, and Key C, for the purposes set forth.

No. 33,455.—THADDEUS SELLECK and WILLIAM H. BUTLER, of Greenwich, Conn.—*Improvement in the Construction of Burglar-Proof Safes.*—Patent dated October 8, 1861.—This invention consists in the use of the metal known as "franklinite iron," principally procured from the zinc ores of New Jersey, either alone or in combination with other metal as a material for safes, this metal possessing the property of resisting the action of steel tools in cutting or abrasion.

Claim.—The employment of the above-described franklinite or other similarly constituted metal, either alone or in combination with wrought or cast iron, in the construction of burglar-proof safes and analogous burglar-proof structures, substantially as and for the purposes specified.

No. 33,456.—ALVA WORDEN, of Ypsilanti, Mich.—*Improvement in Instruments for Stretching Elastic-top Gaiters.*—Patent dated October 8, 1861.—This invention consists in the employment of two lips or flanges, one of which is attached to a cross bar that slides on a

notched frame and is provided with spring pawls, so that when the gaiter is stretched by the lips the pawls hold it in position until released.

Claim.—The gaiter-stretcher, constructed, applied, and operated as described.

No. 33,457.—JOHN THOMAS WAY, of Middlesex county, England.—*Improvement in Obtaining Light by Electricity.*—Patent dated October 8, 1861.—Patented in England April 23, 1857.—This invention consists, first, in the use, for one of the electrodes, of a stream of mercury or other suitable conducting material capable of flowing, in combination with apparatus for regulating the distance apart of two electrodes, such material being caused to flow through an orifice upon the surface of the conducting material which constitutes the second electrode, and the said orifice and the second electrode being so adjusted relatively to each other that the surface of the second electrode is situated at a point where the separation of the particles of the stream commences. Secondly, in the use for the second electrode, in combination with the flowing electrode, of a small overflowing cup or regulated surface of mercury or other suitable material similar to that of which the flowing electrode is composed.

Claim.—The employment, in obtaining light by electricity, of two flowing electrodes, substantially as specified.

No. 33,458.—JOHN THOMAS WAY, of Middlesex county, England.—*Improvement in Obtaining Light by Electricity.*—Patent dated October 8, 1861.—Patented in England May 4, 1857.—This invention consists in the substitution, for fixed electrodes of carbon or other material, of two flowing electrodes, such as two streams of mercury, one connected with each pole of the battery and issuing in two jets, such streams meeting each other at a point where the separation of the particles of either or both streams commences.

Claim.—The use of a flowing electrode of mercury or other suitable conducting material, in combination with apparatus for regulating the distance apart of the two electrodes, substantially as described.

Also, the combination of an overflowing cup or regulated surface of mercury, as a second electrode, with a flowing electrode of mercury in apparatus for obtaining light by electricity, substantially as and for the purpose set forth.

No. 33,459.—MAXAMILIAN WAPPICH, of Sacramento, Cal.—*Improved Marine Propeller.*—Patent dated October 8, 1861.—This invention consists in placing a propeller shaft on each side of the vessel, and in attaching thereto two or more propellers, the edge or periphery of which will be in the line of a cone directed from the front to the rear end of the shaft.

Claim.—Placing propeller shafts on each side of the vessel between the greatest width or beam and the rudder post, the shafts being supported by bearings from the stern, and having propellers whose blades increase in diameter from the front backwards, all as herein set forth.

No. 33,460.—NELSON VAN DEVENTER, of New Albany, Ind.—*Improvement in Current Excavators.*—Patent dated October 8, 1861.—The excavator consists of a series of serrated metal discs, the teeth of which are turned alternately in opposite directions. The discs are placed upon a shaft with their teeth in parallel positions, and kept at a suitable distance apart by rings, by which means the earth is thoroughly acted upon so as to be carried off by the current. The excavator is supported in a frame pivoted to the stern of a steamboat, and is connected with a hoisting apparatus by which it is elevated when necessary.

Claim.—The combination of the rotary shaft *f'*, discs *f*, with teeth set obliquely, and rings *i*, securing the said discs at a proper distance apart, the whole being constructed and arranged as herein shown and described, and operating in connexion with the steamboat A, pivoted frames *c d*, and hoisting apparatus *b s e p*, in the manner and for the purpose set forth.

No. 33,461.—HENRY W. CHACE, of Fall River, Mass., assignor to M. R. CHACE, of the same place.—*Improved Curtain Fixture.*—Patent dated October 8, 1861.—This invention consists in the use of a bracket to be applied to a bedstead to support the rods of a curtain or flounce, instead of tacking the flounce to the bedstead, as is usually done.

Claim.—A bracket or curtain rod supporter constructed substantially in manner as set forth, as a new article of manufacture not heretofore known.

No. 33,462.—MOSES G. CRANE, of Roxbury, Mass., assignor to EDWARD G. ROGERS, of Holliston, Mass.—*Improvement in Tower Clocks.*—Patent dated October 8, 1861.—This invention consists in the application of the hour and intermediate wheels so as to move loosely on the winding arbor, and to so connect the intermediate and hour wheels that the former may be readily thrown out of engagement with the latter, so as to allow the intermediate wheel to be easily revolved in either direction for the purpose of setting the hands of the clock. The sprocket or chain wheel is arranged directly upon the hour-hand shaft so as, in connexion with the guiding pulley, to direct the chain properly on the wheel.

Claim.—The above-described application of the hour and intermediate wheels to the winding arbor or hour-hand shaft, and so connecting the intermediate wheel with the hour wheel that the former may be readily disconnected from the latter, so as to allow the said intermediate wheel to be turned either forward or backward for the purpose of setting or adjusting the hands of the clock, the whole being substantially as set forth.

Also, the application of the sprocket or chain wheel directly to the hour-wheel shaft, in combination with the application or arrangement of the guide pulley as described, the whole being substantially as set forth.

No. 33,463.—SAMUEL H. DRENNON, of New York, N. Y., assignor to L. A. CARMER, of the same place.—*Improved Heads for Double Seaming.*—Patent dated October 8, 1861.—This invention consists in so constructing the head used for double seaming that it may be separate from the stake or teest upon which it is to be secured for use, and may be capable of being fastened to or removed from the stake at pleasure, so that after the stake body is once made to fit with the head, as many of the latter as are desired, with such different "sweeps" as are needed, may be employed with it; thus affording the workman as many various configurations of the face of the head as may be required, while but one stake body is necessary.

Claim.—The combination of a separate adjustable head, substantially as described, with a mandrel or stake for double seaming or other purpose.

No. 33,464.—BRADLEY W. FRANKLIN, of New York, N. Y., assignor to the AMERICAN HARD RUBBER COMPANY, of the same place.—*Improvement in Vulcanizing Caoutchouc.*—Patent dated October 8, 1861.—The nature of this invention is explained by the claim.

Claim.—The employment of a bath of wax, or equivalent substance, as a medium for applying the vulcanizing heat to the vulcanizing compounds of India-rubber and other vulcanizable gums, substantially as and for the purpose specified.

No. 33,465.—WM. P. HUNT and I. D. SPAULDING, of Boston, Mass., assignor to WM. P. HUNT, of the same place.—*Improvement in Ship-Steerers.*—Patent dated October 8, 1861.—Two nuts fitted with screws, one having a right-handed and the other a left-handed thread, move in opposite directions on a shaft having corresponding screw-threads cut thereon; the shaft is connected to the hand-wheel, and the rudder-head is caused to be turned in a direction corresponding to the motion of said hand-wheel. The whole screw-frame is made to yield in the direction of any torsional strains by means of rubber or other springs fitted to each end of the stands. The rudder-head is made in two parts, and is fitted to the upper end of the rudder so as to leave a space for a strip of rubber, and by means of flanches and a bolt the rubber is suitably compressed, so as to allow of a slight movement of the rudder within the head in case of severe strain.

Claim.—First, forming the connexion between the traversing nut D and the rudder-head, by means of the spherically headed studs H and the sliding socket-blocks I, or in any combination of parts substantially equivalent to a universal joint, the said studs and blocks being constructed and arranged to operate substantially in the manner and for the purposes herein set forth.

Second, the arrangement of the springs L with reference to and in combination with the stands E, said stands being rigidly connected to each other, and supporting the screw substantially as described.

Third, clamping the elastic medium P within the rudder-head, said head being constructed substantially as described for the purpose set forth.

No. 33,466.—PETER PRESCOTT, of Booneville, N. Y., assignor to Himself and C. H. POST, of the same place.—*Improvement in Machinery for Turning Broom Handles.*—Patent dated October 8, 1861.—A stick of wood of the proper length is placed on the guide-table and pushed endwise between rollers and up to the rotating cutters, which round the stick as it is fed through the hollow spindle. The cutter-blocks are separated at first as far as they can be, and, as the work progresses, gradually approach each other by the operation of pins on a collar and a lever that works at one end in a groove on a large wheel, while the other end plays in a groove in the said collar provided with pins. At the same time the cutters are rounding the handle they bring it to the required taper.

Claim.—The arrangement of the pins *i*, perforated flange H′, and sliding collar H, with the slotted circular plate G2, pivoted knife-blocks *k k*, and pivoted cutter-carrier *n*, as shown and described.

No. 33,467.—ENOCH ROBINSON, of Raynham, Mass., assignor to OLD COLONY IRON COMPANY, Mass.—*Improved Machine for Bending Wood.*—Patent dated October 8, 1861.—This invention consists in combining with the former, or mould for forming the article, two spring supporters or compressers, the latter being arranged, with respect to the bed-plate, the sliding-carriage, and the former, so as to press with sufficient force upon the wood near the parts which are to be bent, to prevent the separation of the fibres of the stick while being bent into the form desired.

Claim.—The combination of the mould or former P P′, the spring supporters or compressers M M′, with the bed-plate and the sliding frame K, the whole being constructed, arranged, and made to operate together in manner and by means substantially as set forth.

No. 33,468.—JOSEPH SHORT, 2d, of New York, N. Y., assignor to PETER W. NEEFUS and H. R. CONKLIN, of the same place.—*Improvement in Knapsack, Overcoat, and Tent.*—

Patent dated October 8, 1861.—The nature and object of this invention will be understood from the claim and engraving.

Claim.—The formation of a water-proof overcoat, substantially as described, so that it may be easily and readily transformed into a cavalry roll, or a full and complete knapsack with haversack combined, or a water-proof tent, for the several purposes set forth.

No. 33,469.—JAMES H. DOUGHTY, of Adamsville, O.—*Improvement in Churns.*—Patent dated October 8, 1861.—Within the body of the churn is a short inner cylinder secured to a disc, which is attached to the bottom of the churn and provided with a number of radial channels on its upper surface. Within this cylinder works a piston provided with two large apertures, guarded by valves opening downward, by the operation of which the cream is forced radially through the contracted channels, so as to break the globules and liberate the oily matter.

Claim.—The combination of the barrel A, short submerged inner cylinder G, piston K, valve-guarded apertures *k f*, and radial channels *d*, the whole being constructed and arranged as herein shown and described, and operating in the manner and for the purpose explained.

No. 33,470.—DAVID AHL, of Newville, Pa.—*Improvement in Surgical Splints.*—Patent dated October 15, 1861.—This invention consists in saturating cloth or felt, or other suitable material, with a solution of shellac in alcohol and then drying it, after which it is immersed in boiling water and moulded upon a limb or model, so as to conform to the part to which it is to be applied. The splint may be perforated to provide for suppuration.

Claim.—Making a surgical splint of a material which is plastic and flexible when hot, and flexible when cold or dry, that its shape may be formed or modified, at the will of the surgeon, to fit the member or part to which it is to be applied, and which will be sufficiently firm without being rigid and painful to the wound or fracture.

No. 33,471.—THOMAS K. ANDERSON, of Addison, N. Y.—*Improvement in Oil-Cans.*—Patent dated October 15, 1861.—This invention consists in attaching to the inner side of the can an air-tube, which extends from a point near the nozzle to the centre of the bottom of the can, so that when the can is held by the handle, with its nozzle inclining downward, a sufficient quantity of air will enter the can to admit of the flow of oil, and when lying upon its side the oil is prevented from escaping.

Claim.—The air-tube C, when applied to the can or filler, substantially as shown and described, to admit of the escape of the contents of the can by a proper manipulation of the latter, and at the same time prevent a waste or casual discharge by the upsetting of the can or from other causes, as set forth.

No. 33,472.—T. G. BANCROFT, of Worcester, Mass.—*Improvement in Umbrellas and Parasols.*—Patent dated October 15, 1861.—The object of this invention is to obtain a ready means for attaching and detaching the cover of an umbrella from its frame, for the purpose of cleansing the cover, or replacing it by a new one. To the upper end of the stick or handle is attached an extension tip provided with a screw-thread at one end, to admit of its being moved up and down upon the stick; a flanged collar admits of the frame being readily turned. To the lower end of the covering, at proper intervals, are secured socket-tips, which fit upon the ends of the bows or ribs of the frame. Upon attaching the covering to the flanged collar and inserting the ends of the bows in the socket-tips, the covering is properly stretched by screwing up the extension-tip upon the rod.

Claim.—The flanged collar *b*, extension-tip B, screw-rod *a*, cover H, and socket-tips F F, or their equivalent, in combination with the frame of an umbrella or parasol, when arranged and operating in the manner and for the purposes substantially as described.

No. 33,473.—OLNEY BOLSTER, of Worcester, Mass.—*Improved Stall for Animals.*—Patent dated October 15, 1861.—The floor of the stall is constructed of a series of longitudinally placed pieces of timber, the upper edges of which are bevelled. Upon this flooring is placed, first a layer of straw or fine brush, and then a layer of spent tan or sawdust. At the rear end of the stall is a stop-piece, for the purpose of preventing the bedding from escaping and for keeping the animal in the stall.

Claim.—The combination and arrangement of the bevelled floor timber and the stop D, when constructed in the manner and for the purposes substantially as set forth and described.

No. 33,474.—JOHN CARTON, of Utica, N. Y.—*Improvement in Parlor-Heaters.*—Patent dated October 15, 1861.—This invention consists in so forming the cap or top of the fire-pot that a number of concentric metallic cylinders may be placed thereon, and be so connected with the fire, the outer air, and with one another, that the smoke and heat and inflamed gases may ascend in some of the said cylinders and cold air in others, and the smoke be made to pass up the chimney, while the cold air becomes heated in its passage between such cylinders and passes into the room, or may be conveyed into other rooms by means of pipes.

Claim.—The cap L, with the neck G', and the rings E' and F', and the openings H H, and the passages J J, constructed and operating substantially as described.

No. 33,475.—BENJAMIN S. CHURCH, of New York, N. Y.—*Improvement in Water Meters.*—Patent dated October 15, 1861.—This invention consists in arranging within a cylindrical case two plungers fitted to work, one within and independent of the other, in such a manner as to leave a passage for the water to flow in and out of the meter in all positions of the plungers, and to prevent any water from passing through the meter without being measured.

Claim.—First, the combination of the two plungers E D, fitted to work one within and independent of the other, the outer plunger acting as a cylinder into which the water passes to actuate the first, and to be measured, with the compartments B B′ B″, passages I I and *f f*, arranged and operating substantially in the manner described.

Second, the latches *m m*, in combination with the plunger D, flanges *a a*, and tappets *k k*, when arranged and operating in the manner and for the purposes described.

No. 33,476.—CHARLES CLAUDE, of Newark, N. J.—*Improved Lock.*—Patent dated October 15, 1861.—This invention consists of a key having a stationary groove on the periphery opposite the bit, and a revolving grooved sleeve also on the periphery, and used in connexion with locking-plates, which lock into and hold a thimble in its place; also a key-plate and locking bolts, which lock and hold the keyhole or stop-plate and thimble in their positions until they are removed by the key. The device is designed to be attached to the face or side plate of any known form of locks.

Claim.—First, the combination of stop-plate G, with lock-bolt H and spring I.

Second, the thimble F, in combination with the lock-bolt J and spring I.

Third, the key N, in combination with the lock, as described.

No. 33,477.—WILLIAM CRAIG, of Binghamton, N. Y.—*Improved Cut-off for Oscillating Engines.*—Patent dated October 15, 1861.—This invention consists in the use of a cut-off valve applied to oscillate on the stem of, and in contact with, the back of an independently oscillating slide valve within one of the trunnions of the engine. The cut-off valve is furnished on its back with two projections, which strike against an adjustable arc-piece or double stop when such stop is moved into their path by means of a governor or other device, so as to cut off the steam at the desired point.

Claim.—The cut-off K, applied to oscillate on the stem of and in contact with the base of an independently oscillating slide valve within one of the trunnions of an oscillating steam engine, in combination with the adjustable arc-piece or double stop *m*, also applied within the trunnion, but movable or adjustable, under the control of a governor or other device, on the exterior thereof, the whole operating substantially as set forth.

No. 33,478.—GEORGE G. CROSE, of Schoolcraft, Mich.—*Improved Device for Marking Corn Furrows.*—Patent dated October 15, 1861.—This invention consists of a wooden frame, resembling a sled, provided with runners; the main body has hinged to each side a second frame and runner, and still another frame with its runner is hinged on the outside of each of the second frames, by which means a number of furrows may be marked at the same time; and the machine may be folded so as to admit of its passing through a narrow opening.

Claim.—The arrangement with the runners *a a*, and ties *b*, of the hinged planks C C′ D′ D′, and runners E E *g g*, as shown and described, so that two, three, four, five, or six furrows may be made as desired, all as set forth.

No. 33,479.—MATTHEW DE LA MONTANYA, of San Francisco, Cal.—*Improved Blacksmith's Portable Forge.*—Patent dated October 15, 1861.—This invention consists in supplying a constant current of air to the fire through the tubes of the tuyere by means of a double-acting blowing cylinder in connexion with a closed air chamber. The blast is introduced into the ash box at some distance above the bottom, so that the box catches any ashes that may fall through the nozzle of the tuyere, where they remain out of the influence of the blast.

Claim.—First, the application of the double-acting blowing cylinder to portable forges.

Second, the closed chamber O occupying the main body of the forge, and employed to equalize the blast between the cylinder D and tuyere P, as explained.

No. 33,480.—JOHN GAULT, of Boston, Mass.—*Improvement in Vault Lights.*—Patent dated October 15, 1861.—This invention consists in securing a prismatic glass cone which is concave on its upper surface in a metallic rim, which rim is secured to the under side of the metallic cover by screws and nuts, or by an ordinary hinge and catch on the opposite side.

Claim.—First, placing an adjustable glass below a vault cover, and detached therefrom, for the transmission of light.

Second, the combination of a perforated metallic vault cover, with a glass beneath it, so arranged that the latter may be attached or removed in whole or in part at will.

No. 33,481.—J. P. GILLESPIE, of New Albany, Ind.—*Improvement in Metallic Cartridges.*—Patent dated October 15, 1861.—This invention consists in providing within the cartridge case small points or pins which serve the purpose of a screw thread to hold the ball firmly in place when inserted in the case.

Claim.—The cartridge case provided with points or pins *x x* near its mouth, for forming a thread upon the ball, and retaining it in its position, substantially as set forth.

No. 33,482.—P. GIRAUD, of New York, N. Y.—*Improvement in the Mode of Preserving Butter.*—Patent dated October 15, 1861.—This invention consists in the use of the intestines of beef cattle, which are rendered pure and odorless. The butter is forced in and separated into such quantities as may be desired for use by tying the intestine at several points, when it is placed in a receptacle containing brine.

Claim.—Preserving butter by means of the sacks and brine in casks, as set forth.

No. 33,483.—MICHAEL GREENEBAUM, of Chicago, Ill.—*Improvement in Heating Apparatus.*—Patent dated October 15, 1861.—This invention consists in arranging a number of cylinders around a fire-pot, so that, the cylinders being filled with water and heated, a circulation is given to the water upward through the cylinders, and downward through a number of pipes connecting the top and bottom of the cylinders. The apparatus is enclosed within a casing forming an air chamber into which cold air is admitted, and becomes heated by means of the cylinders and pipes containing the hot water.

Claim.—First, the arrangement relatively to the stack *b*, and fire-grate *s*, (of a heater *n*,) of the cylinder *d d m*, cylinder *a*, flues *c c*, and circulation pipes *f f*, the whole operating conjunctively, substantially in the manner and for the purpose described.

Second, the combination of the devices *l g h* and *j* with a heater *n*, constructed substantially as described, and combining the cylinders *d* and *a*, flues *c c*, and circulation pipes *f f*, as described, for the purpose set forth.

Third, the combination and arrangement of the grate *s*, stack *b*, transverse pipe *e*, and cylinders *d a*, flues *c c*, circulation pipes *f f*, and devices *l g h* and *j*, in the manner and for the purposes described.

No. 33,484.—D. M. GUNN and C. L. CAIN, of Oskaloosa, Iowa.—*Improvement in Beehives.*—Patent dated October 15, 1861.—This invention consists in the arrangement of slides in connexion with guard-wires placed between the upper and lower compartments, and removable covers upon each compartment, so that the bees may be confined in either part of the hive, and the contents of either part may be rendered easily accessible for inspection or the removal of the honey. In connexion with two of the slides, which are partially perforated, are ventilators, which admit of a free circulation of air while the light is excluded.

Claim.—First, the combination and arrangement of the slides D E G I, with the guard-wires *o q*, and the removable covers H M, substantially as shown, for the purpose of confining the bees in either part C J of the hive, and rendering the contents of either part accessible, as set forth.

Second, the combination of the partially perforated slides D E, with the dark ventilators K and *i*, in the hive, constructed and arranged substantially as and for the purpose specified.

No. 33,485.—J. A. F. LAIR, of Paris, France.—*Process of Reducing Copies of Engravings, &c.*—Patent dated October 15, 1861.—The nature of this invention is explained by the claim.

Claim.—Producing reduced copies of engravings or other objects by first making moulds of the object in gelatine or other equivalent substance, then contracting the said moulds by immersion in chemical baths, or otherwise, and finally electrotyping the contracted moulds, substantially as set forth.

No. 33,486.—W. M. LEE, of Rosindale, Wis.—*Improvement in Bechives.*—Patent dated October 15, 1861.—The hive is divided into two parts, but without a partition, in both parts of which the queen will deposit her eggs so that the opening of the hive will leave a broad comb in each part. At the lower part of the hive are two miller traps, provided at their ends with retreating entrances, so as to lead the millers into the trap, but prevent their egress. A screen is placed in the sliding board which forms the top of the trap to admit air into the hive when the boards are closed at night.

Claim.—First, dividing the hive rack vertically through the centre, without a partition, in such manner as equally, or nearly equally, to divide the brood comb, the bees and honey, substantially as set forth.

Second, the peculiar construction and arrangement of moth trap, with slides for closing the hive at night, and ventilating screen, substantially as set forth.

Third, the honey boxes, provided with screens operated by springs on the bottom, substantially as set forth.

Fourth, the arrangement of the removable strip, dovetailed into the front, for the purpose of holding the two parts of the hive, and for the bees to alight upon, as set forth.

No. 33,487.—LEONARD MARSH, of Burlington, Vt.—*Improvement in the Construction of Screws.*—Patent dated October 15, 1861.—This invention consists in splitting the screw in one or more places in a line parallel to its length, and then arching the split portion, so that when inserted in a matrix, it is compressed until the flexure of its arched sides is overcome, the elastic reaction of the bent metal acting like a wedge to hold the screw firmly in its place.

Claim.—The method before described of increasing the adhesion between a screw and its matrix, by splitting the screw and forming the split portion into an elastic arch, substantially in the manner and for the purposes set forth.

No. 33,488.—W. N. MARTIN, of Providence, R. I.—*Improved Sash Holder and Fastener.*—Patent dated October 15, 1861.—This invention consists in the arrangement of two angular hand-levers enclosed in a box and pivoted together, so that their tooth-shaped ends will be forced outwards by a spring to engage with a rack-bar secured to the window-frame.

Claim.—The arrangement of the levers *e f e f*, the pivot *i*, the spring *g*, and the casing *d h*, with each other, and with the rack-bar *k*, in the manner set forth.

No. 33,489.—J. R. MORRISON, of East Springfield, Ohio.—*Improvement in Machine for Cleaning and Renovating Feathers.*—Patent dated October 15, 1861.—This invention consists in the use of a hollow cylindrical case for the reception of the feathers. A hollow tube runs through this case and has secured to it hollow wings, into which steam passes from the tube, to which is also secured another tube perforated with holes and communicating with the steam tube by a passage provided with a plug. The steam tube is revolved and the plug removed so as to admit steam to the feathers. The plug is afterwards replaced, and the feathers dried by the radiation of heat from the wings and pipes.

Claim.—First, the employment of the wings D D, upon the shaft B, when constructed and used for the purpose specified.

Second, the arrangement of the shaft B, the wings D, and the perforated pipe E, as and for the purpose specified.

Third, the combination of the shaft, the wings, and the perforated pipe with the divided case, constructed as and for the purpose set forth.

No. 33,490.—J. R. MORRISON, of East Springfield, Ohio.—*Improved Washing Machine.*—Patent dated October 15, 1861.—In this machine a corrugated partition extends up from the bottom of the tub, and over this partition fit two corrugated rubbers which are attached to the ends of a spring bow, and are thus made to embrace the partitions between them. The clothes are placed between these rubbers and the partitions, and by means of a lever the rubbers are moved up and down in contact with the clothes.

Claim.—The spring bow E, constructed as described, and provided with the set screw *a*, when used in connexion with the lever F, and the dividing board *c*, the whole being arranged to operate as and for the purpose specified.

No. 33,491.—ALEXANDER RALPH, of Centreville, Del.—*Improved Foot Scraper.*—Patent dated October 15, 1861.—The foot is placed upon the spring end of the bar supporting the scraper, and brought down so as to force the boot or shoe over the scraper along the bar and between the brushes, which cleanses the sole of the boot and also the sides at the same time. Upon the withdrawing the foot, the spring forces the forked bar up, throwing out the dirt from the brushes. When necessary, cleaners composed of gutta-percha or India-rubber may be substituted for the brushes.

Claim.—The combination of the scraper with the forked spring bar and brushes, or gutta-percha or gum cleaners, substantially as specified.

No. 33,492.—RUEL RAWSON, of Warsaw, Ind.—*Improvement in Saw-Sets and Wrenches combined.*—Patent dated October 15, 1861.—This invention consists in combining a wrench which will seize a nut in a corner or narrow place with a saw-set, the whole constituting a new article of manufacture.

Claim.—The described wrench and saw-set, when combined, as a new article of manufacture, substantially as set forth.

No. 33,493.—JAMES REIDY, of Cork, Ireland.—*Improvement in Machines for Breaking Stone and other Hard Substances.*—Patent dated October 15, 1861.—This invention consists in the use of one or more hammers suspended on vertical guide rods, and rising and falling on cutters placed beneath. The hammers are raised by a suitable cam or tappet apparatus, and fall by their own gravity on the stones, the latter resting on a cutter-box in which they are broken and driven through between the cutters by the force of blows from the hammer. Stones of a suitable size are supplied to the cutter-boxes by feeding rollers. Springs prevent the cutters from being struck when there are no stones between them and the hammers.

Claim.—The combination of a hammer or hammers and the cutters, arranged and operating as described, with reference to the drawing annexed, for the breaking of stones and other hard substances, as described.

No. 33,494.—JAMES ROBERTSON, of New York, N. Y.—*Improved Portable Water-Closet.*—Patent dated October 15, 1861.—This invention consists in the use of a pump and water reservoir in connexion with a basin and foul chamber, provided respectively with a water seal and pan, all so arranged as to answer all the purposes of a water-closet which is permanently fixed and supplied with water under pressure.

Claim.—The combination of the pump F, water reservoir C, foul chamber L, provided with the basin N, being provided with a balance pan O, and the pump F, provided with an eduction pipe H, the end I of which is arranged relatively with the basin N, and connected to the lid K, as shown and all arranged to form a new and portable article for the purpose specified.

No. 33,495.—JOHN P. SCHENKL, of Boston, Mass.—*Improvement in Safety Concussion Fuses for Explosive Projectiles.*—Patent dated October 15, 1861.—This invention consists in a method of applying the nipple or percussion cap-carrier to the inner wall of the case, so that when liberated by the explosion of the powder charge in the piece it shall always be left perfectly free to move in the case, and when such projectile shall strike against any hard substance the force of concussion shall cause the cap to explode and fire the powder contained in the projectile or shot.

Claim.—Securing the nipple-carrier to one side of the inner wall of the case by means of a screw, and so countersinking the hole made through the case for the reception of such screw as to form a sharp cutting edge whereby the said screw shall be cut off smooth with the inner surface of the case and the outer surface of the nipple-carrier, in manner and under circumstances as set forth.

No. 33,496.—JOHN F. LEIBERLING, of Doylestown, Ohio.—*Improvement in Harvesters.*—Patent dated October 15, 1861.—This invention consists in the use of a dropper or platform for receiving the cut grain, hinged so as to allow the grain to slide off, and is operated by a treadle connected with it by means of rods and levers which are used in connexion with a cut-off, so as to prevent the grain from being deposited on the dropper while the latter is discharging its load. The heel of the cutter beam rests upon, and is connected with, a bar supported at one end by a pivot joint, and at the other by a flexible joint.

Claim.—First, the arrangement and combination of the treadle F, rod U, and elbow lever V, rod G, and lever H, for elevating and depressing the dropper M, and cut-off L, through lever I, and rod K, substantially as set forth, for the purposes described.

Second, the arrangement of the hinged bars Q and R, for supporting the heel of the cutter beam, and for elevating and depressing the same and the reel by means of lever T, or other device, said hinged bars being used in connexion with the shoe or bar O, and its flexible attachments, substantially as set forth.

Third, the combination of the slatted dropper M, the cut-off L, and the finger beam, substantially as described.

No. 33,497.—PHILANDER SHAW, of Boston, Mass.—*Improvement in Utilizing the Exhaust of Caloric Engines.*—Patent dated October 15, 1861.—This invention consists in the employment of the exhaust hot air engines to generate steam in any suitable boiler, and also in an arrangement of passages for the exhaust of a caloric engine with any suitable boiler and its furnace, so that either the exhaust or fuel consumed in the furnace under the boiler can be employed to generate steam.

Claim.—First, so arranging and applying steam boilers, in connexion with the exhaust passages of hot air engines, that a portion of the caloric contained in the exhaust of such engines shall be utilized in the generation of steam, substantially as specified.

Second, the arrangement, operating substantially as set forth, of the exhaust passages of a hot air engine with a suitable boiler and its furnace, to generate steam either by the exhaust from such engines or by the combustion of fuel in the boiler furnace.

No. 33,498.—CHARLES SHIVERS and STEPHEN USTICK, of Philadelphia, *Pa.*—*Improvement in Chimney Flues.*—Patent dated October 15, 1861.—This invention consists in constructing clay linings for forming the inside of chimney flues, either in close sections or in plates; the construction of the flue progressing simultaneously with the building of the chimney.

Claim.—Forming the end tiles A, and side tiles B, with rebates, substantially as described, and making the said end tiles of different perpendicular dimension to that of the side tiles, so as to break joints in the construction of the flues when they are arranged in relation to each other, substantially in the manner and for the purposes set forth.

No. 33,499.—A. J. SMITH, of Decorah, Iowa.—*Improvement in Beehives.*—Patent dated October 15, 1861.—The space between the inner and outer walls of wire-cloth is filled with straw, so as to afford ventilation and render the hive warm in winter and cool in summer. A hinged flap is applied to the front of the hive and may be raised or lowered by a set screw so as to regulate the size of the entrance. When entirely closed the bees may be admitted through a circular opening in which an eccentric button is placed, which may be turned so as to admit one or more bees at a time.

Claim.—A beehive having its walls formed by straw, hay, or other similar fibrous non-conducting substance, and wire-cloth arranged within a suitable frame, substantially as and for the purpose set forth.

Also, the adjustable flap or door E, in combination with the eccentric button H, placed within the recess or opening *q*, of the alighting board G, and all arranged as and for the purpose specified.

No. 33,500.—JOHN and JACOB STOCK, of New York, N. Y.—*Improved Box for Prepared dry Photographic Plates.*—Patent dated October 15, 1861.—The nature of this invention consists in so constructing a box for prepared dry photographic plates that any one plate may be passed from said box into the plate holder without damage or possibility of admitting the

external light to said plate or plates, or during the operation of passing or transferring a plate from the box to the plate holder.

Claim.—First, the arrangement of a box with movable covers in combination with suitable cross-pieces *n* and *m*, acted upon by springs to exclude the light from the inner side of said box, constructed in the manner and for the purpose set forth.

Second, the arrangement of the projection *w*, at the end of the upper cover, in combination with the projection *v*, and spring *s*, on the lower cover, in the manner and for the purpose specified.

Third, the slide *g*, covering the hole *h*, for the passage of the plate of glass, operated and arranged in the manner and for the purpose set forth.

Fourth, the hinged lever or arm D, provided with notches and operated by the spring 3, in the manner and for the purpose described.

Fifth, the projection *x*, on the side of the plate holder acting upon and operating the slide covering the hole in the top cover, in the manner and for the purpose substantially as described and set forth.

No. 33,501.—J. L. TAYLOR, of New York, N. Y.—*Improvement in Grooving Machines.*—Patent dated October 15, 1861.—This invention consists of a tool for cutting rectangular grooves in boards, and is composed of two circular plates secured to a rotating mandrel. To these plates are fastened serrated or toothed cutters which make vertical cuts in the plank, while the wood between them is removed by chisel-shaped cutters which follow them.

Claim.—The described tool for "dadoing" or grooving, which consists of the grooved clamping plates A A, adjustable cutters C C D, guides *i*, and screw shaft B, arranged, constructed, and operating together in the manner shown and described.

No. 33,502.—WILLIAM H. TOWERS, of New York, N. Y., assignor to W. S. BARD, of the same place.—*Improvement in Broom Handles.*—Patent dated October 15, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—Forming a series of grooves around broom handles of such relative sizes and distances apart as shall correspond with the bulk of the successive layers of broom corn, and the positions of the respective lines of windings of the wire binding the ends of the same in the grooves, substantially as described.

No. 33,503.—WILLIAM WATSON, of Tonica, Ill.—*Improvement in Railroad Rails.*—Patent dated October 15, 1861.—This rail is composed of two parts formed as shown by section in the engraving, one being placed on the other, and held in place by two braces, one on each side of the rail, the whole being connected together by a key-bolt, for the purpose of allowing the upper part of the rail, when worn out, to be removed and a new section put in its place without removing the lower part of the rail.

Claim.—The improved mode of construction of the railroad rail in its several parts as described, in combination with its supports and braces bolted and fitted together in the manner and for the purposes described.

No. 33,504.—E. M. WRIGHT, of Marysville, Cal.—*Improved Mode of Constructing Nozzles for Hydraulic Pipes.*—Patent dated October 15, 1861.—This invention consists in providing the end of the nozzle with a chamber formed by projections on the collar, whereby a sudden expansion of the water as it leaves the nozzle is effectually avoided, and a smooth, solid stream is produced.

Claim.—The use and application of the water chamber C formed by the projections *f f*, for the use and purpose and in the manner substantially as set forth.

No. 33,505.—D. B. CHATFIELD and J. M. DUTCHER, of La Grange, Wis., assignors to THOMAS HARRISON, of Lafayette, Wis.—*Improvement in Water-Elevators.*—Patent dated October 15, 1861.—This invention consists in the application of adjustable fans, in combination with a chain of buckets, operated by weights and a series of wheels, so as to cause it to run with a uniform speed and raise the same amount of water every hour until the machine runs down.

Claim.—The above-described water-elevator, in combination with the fans N, substantially in the manner and for the purposes set forth.

No. 33,506.—B. P. FOSTER and W. H. CHAFFEE, of Flint, Mich., assignors to W. H. FLINT, of the same place.—*Improved Ditching and Tile-Laying Machine.*—Patent dated October 15, 1861.—This invention consists in arranging the teeth or scrapers on the buckets of an endless chain, so that the teeth of one bucket shall come in line with the interstices between the teeth of the preceding bucket, in such a manner as to give alternate lines of deeper penetration into the soil, these two buckets being followed by one having a scraper extending the full width of the belt. The tiles slide down in guides and take their position in the ditch, and to prevent the entrance of loose dirt at the joints they are covered by a strip of cloth, which is wound up on a reel, and unwinds as the machine advances.

Claim.—First, the arrangement of teeth on the buckets of an endless chain, so that those on one bucket will follow the interstices between the teeth of the one which precedes it, in

such a manner as to give alternately different depths of penetration, and these two be followed by a third bucket, having a scraper instead of teeth, which cleans up the loose dirt which the others have left, as described.

Second, the combination of the guide 14 and 15, reel 13, and spout 29, by which the tile are laid and covered, arranged to work in connexion with an excavating apparatus, substantially as described.

No. 33,507.—WILLIAM MILLER, of New York, N. Y., assignor to Himself and SAMUEL T. WILLIAMS, of the same place.—*Improvement in Album-Cases for Photographic Cards.*—Patent dated October 15, 1861.—The object of this is to produce an album-case which can be opened so as to exhibit a number of photographic cards at once, and it consists in the manner of forming the leaves of metallic plate, so as to hold two pictures each, and also in the manner of connecting the leaves together, so that one-half of the leaves constitute the case of the front edge of one cover, and the other half of the other cover, which covers are hinged together at their backs. The cards are inserted at the top of the leaves with their backs together, showing a picture on both sides of each leaf.

Claim.—First, forming the leaves of the case of metallic plates by turning up a lip on three sides of the same, lapping and soldering them together in the manner described, so as to leave a space between them for the introduction and exhibition of two pictures in the manner described.

Second, the manner of connecting the leaves together by hinges *a* formed of two short sections of tubing, substantially as described.

Third, attaching the backs of the covers by long hinges *b b*, and the leaves to the front in such a manner that when the case is shut the leaves are folded therein, and the whole fastened together by a single clasp *f*, as described.

No. 33,508.—ROBERT BOSS, of Pittsburg, Pa., assignor to Himself and RICHARD BOND, of the same place.—*Improvement in Oil-Cups.*—Patent dated October 15, 1861.—This invention consists of a screw-valve, with a stuffing-box and an internal screwed valve-spindle, in combination with an annular chamber which communicates with the interior of a lower reservoir through any suitable number of lateral openings or passages, so as to avoid the faucets generally used in the class of oil-cups. The body of the oil-cup is divided into an upper and lower compartment, communicating with each other through a passage. The oil is admitted from the upper to the lower reservoir by unscrewing the screw-valve while the lower valve is closed.

Claim.—The screw-valve D, with its stuffing-box, and the screwed valve-spindle E, in combination with the annular chamber *i* and its passages *j*, the whole being constructed and arranged in respect to the upper reservoir A and lower reservoir B, as and for the purpose set forth.

No. 33,509.—ETHAN ALLEN, of Worcester, Mass.—*Improved Mode of Constructing Revolving Fire-Arms.*—Patent dated October 22, 1861.—When the pistol is cocked the stop-spring forces the end of the lever-stop down until it rests on a projecting part of the trigger, while the opposite end of the lower stop is forced into a recess of the revolving cylinder, which secures it in the right position to be discharged.

Claim.—Operating the lever-stop G of revolving fire-arms by trigger H, in combination with a tumbler P and spring K, substantially as set forth and described.

No. 33,510.—S. W. BAKER, of Providence, R. I.—*Improvement in Woven Endless Belts.*—Patent dated October 22, 1861.—This invention relates to a woven fabric such as is composed of several tiers of filling threads interwoven with the warp threads. A sufficient number of the warp threads are cut to liberate the first tier of filling threads, being the portion that is to form the length of the lap or joint. This reduces the fabric the thickness of one set of filling threads; then, at about one inch from the edge, the whole remaining surface is thinned by the removal of another tier of filling threads, which forms a second edge; the remaining surface is reduced by taking out the third tier, &c. The two bevelled or scraped laps thus made are cemented or sewed together.

Claim.—The mode described of forming and uniting the ends of belts or bands, or of other thick material composed of thick woven fabric, as specified, whereby they present, when finished, no perceptible seam at their lap or juncture.

No. 33,511.—A. P. BARLOW, of Dixon, Ill.—*Improved Washing Machine.*—Patent dated October 22, 1861.—The claim and engraving explain the nature of the invention.

Claim.—The swinging rubber E, scolloped rollers *b b*, roller B, blocks *c c*, and spiral springs *f f*, when the whole shall be constructed and arranged in the manner and for the purpose specified.

No. 33,512.—R. H. BLAIR and A. W. BEATTY, of Saltsburg, Pa.—*Improvement in Combined Clover Stripper and Hay Rake.*—Patent dated October 22, 1861.—A box is provided to receive the clover tops, which are gathered by means of a comb and bar passing over the

comb, and which bar draws back to it the closed head into the comb. By detaching the box, comb, and their connexions, and affixing a bar provided with a series of wire teeth, it may be used as a rake.

Claim.—The shaft I, provided with the lever K, and attached to the frame C of the axle A, when combined and used in connexion with the raking device and clover stripper, as set forth.

No. 33,513.—MATTHEW C. BOGIA, of Philadelphia, Pa.—*Improvement in Rammers for Cannon.*—Patent dated October 22, 1861.—A circular recess is formed in the block or head of the rammer, and a cylindrical piece of gum-elastic placed therein. A bolt passes from a washer below this gum-elastic through it and a washer above, and screws into the handle; the object being to relieve the hands and arms of the operator from shocks or jars incident to rammers having their heads rigidly connected to the handles.

Claim.—The head or block A, the gum-elastic block B, screw bolt D, handle H, and cover G, the whole being constructed, arranged and operating, substantially as and for the purpose set forth.

No. 33,514.—CHAUNCEY BUSH, of New York, N. Y.—*Improved Camp Pan and Baker.*—Patent dated October 22, 1861.—This invention consists of two pans constructed with double sides and bottoms, with non-conducting material interposed between them, the pans being adapted to be used either singly or attached together to form a baker, which, when filled with the article to be baked, is buried in hot ashes or placed in an open fire, for the purpose of expeditiously cooking the article without danger from excessive heat.

Claim.—As a new article of manufacture, a camp pan and baker, constructed with inner and outer walls, between which non-conducting material is interposed, and the utensil adapted to be used either as a common pan or as a baker, substantially as described.

No. 33,515.—W. Z. W. CHAPMAN, of New York, N. Y., and J. W. CHAPMAN, of Hyannis, Mass.—*Improvement in Carriage Curtain Fastenings.*—Patent dated October 22, 1861.—This invention consists of a cylindrical cap of thin metal having a flange at its lower end; a slot is made through this cap from which a spring catch projects. This is used in connexion with a "grommet" made of two parts, from one of which project pins that pierce through the curtain when applied. To the inner side of the curtain and upon the points of the pins a circular disc of rubber is applied, so as to render the fastening free from the usual noise and rattling.

Claim.—The constructing of the catch or knob, substantially as specified.

Also the noiseless grommet fastening, as and for the purposes specified.

No. 33,516.—THOMAS CLANCY, of Chicago, Ill,—*Improvement in Cutting Trowsers.*—Patent dated October 22, 1861.—This invention consists in proportioning the parts and placing the patterns in such a manner that the entire material required for one-half the trowsers or overalls shall be included within two parallel lines drawn diagonally across the length of the material, for the purpose of preventing waste in cutting.

Claim.—The method of cutting trowsers and overalls, as described, in which one-half of the article is included within two parallel diagonal lines drawn across the material.

No. 33,517.—HENRY COOK, of Manchester, England.—*Improvement in the Manufacture of Hoop Skirts.*—Patent dated October 22, 1861.—Patented October 20, 1860.—This invention consists in constructing the material in a wavy or corrugated form, so that the folds of the dress will fall gracefully over the wavy line instead of bulging out and forming flat unbroken curves.

Claim.—The use of crinoline or steel or other suitable material of a wavy or corrugated form in the manufacture of petticoats or skirts, as set forth.

No. 33,518.—TRUMAN COOLEY, of BROCKPORT, N. Y.—*Improvement in Feathering Paddle Wheels.*—Patent dated October 22, 1861.—The arms are set in flanges which are attached to the main driving shaft, the flange being formed by using a core to make the slant for the two sets of iron arms. Brackets are then placed for the boxes of the crank pin, made eccentric to the wheel. The crank roller revolves on the shaft, and as all the wheels revolve, the buckets will be kept in an upright or feathered position,

Claim.—First, the plate P and manner of constructing the friction rollers L, as connected with and adjusted to the flange J, by the slots *l*, as shown.

Second, the manner of constructing and effecting the eccentric motion of the wheels I and H, operating and feathering of the paddle C by the crank Fig. 6, in combination with the lignumvitæ box Y and the tapering journal Fig. 7, also in combination with paddle C and paddle bar F, with the diagonal and parallel braces *m*, when constructed and arranged in the manner and for the purpose substantially as set forth.

No. 33,519.—S. W. COX and J. H. TROWBRIDGE, of New Haven, Conn.—*Improvement in Trace Fastenings.*—Patent dated October 22, 1861.—This invention consists in the use of a spring loop, one end of which is pivoted to the whiffletree and the other enters the eye in its journal, thus holding the trace in position.

Claim.—The trace fastening C C′ *c*, constructed, applied and operating as described, in combination with a whiffletree and the eye in the journal thereof, as and for the purposes set forth.

No. 33,520.—GEORGE CROMPTON, of Worcester, Mass.—*Improvement in Power Looms.*—Patent dated October 22, 1861.—This invention relates, first, to the motion which operates the lifter and depresser; and, secondly, to the angle of the shed in harness motion of facing looms. A connecting arm attached to a rocking plate is adjusted by studs in different parts of their slots, so that more or less pause may be communicated to the slide rods and through the jacks which operate the harness to the shed of the warp, thereby obtaining an uninterrupted passage for the flight of the shuttle.

Claim.—The operation of the crank on the rocker plate and the combination therewith of the connexion to the lifter and depresser, as and for the purpose set forth.

Also the arrangement of the lifter and depresser for producing an incline to the shed, as described.

No. 33,521.—HENRY DAVIES, of Portsmouth, O.—*Improved Apparatus for Heating Air for Blast Furnaces, &c.*—Patent dated October 22, 1861.—The air from the blowing machine is introduced by a lower pipe, and passes through a series of smaller pipes, taking a spiral course. This course of the current will produce a centrifugal force, and as the colder particles of air will be the heavier, they will constantly be thrown out against the inside of the pipes and displace the hot particles already heated, thereby increasing the blast.

Claim.—First, the pipes C, boxes B and F, and covers D, when constructed, combined, and arranged substantially as and for the purposes set forth.

Second, the construction and use of tubes, through which air is to be passed for the purpose of being heated, with an internal spiral partition or screw, substantially as set forth.

No. 33,522.—WILLIAM ELLMAKER, of New Holland, Pa.—*Improvement in Self-Acting Brakes for Carriages.*—Patent dated October 22, 1861.—This invention consists in a self-acting brake for buggies and other vehicles, in which the brake levers are operated by rods connected to eyes, in the ends of which the backing straps are attached. The brakes are held off the wheels by a spiral spring around the rods, which springs are of sufficient strength to prevent the action of the brake levers when backing on level ground.

Claim.—The arrangement of the rod G, with its eye I, spiral spring H, hook end or ends G′, in combination with the lever E, fulcrum and pin *e*, and rubber F, when arranged and combined, substantially as set forth, for the purpose specified.

No. 33,523.—OSCAR FALKE, of New York, N. Y., and EDWARD SIMON, of Washington, N. J.—*Improvement in Arrangement of Metallic Plates for Vulcanizing Rubber and other Gums.*—Patent dated October 22, 1861.—To prevent blistering, which is incidental to the use of two metallic plates between two sheets of rubber, use is made of but one plate between the sheets, and the gutta-percha is caused to adhere closely to the plates by subjecting them to pressure.

Claim.—The described mode of arranging and treating India-rubber, gutta-percha, and other vulcanizable gums, substantially as described, for the purposes specified.

No. 33,524.—GUSTAVUS FINKEN, of Brooklyn, N. Y.—*Improvement in the Manufacture of Cube Sugar.*—Patent dated October 22, 1861.—A series of screens arranged in an upright trunk and inclined in opposite directions, alternately, receive the granular sugar. Steam enters a pipe at the lower end, so that every grain is subjected to the heating and moistening influence, the sugar passing from the lowest screen through an opening in the trunk to the moulding apparatus.

Claim.—The manufacture of cube sugar, the preparation of the granular sugar for the moulding or cube-forming apparatus by treatment with steam, substantially as described.

No. 33,525.—GEORGE HAMEL, of Abington, Pa.—*Improvement in Stoves.*—Patent dated October 22, 1861.—The claim and engraving explain the nature of this invention, the object being to prevent the ash dust from escaping into the room, and to cause it to be conducted to the chimney flue.

Claim.—The application of a permanently-fixed dust chamber A to the grate front of a stove, the said chamber being open to the ash space below, and being provided at its upper part with an adjustable opening *g* and a damper *h*, and its lower part with a door *i*, the whole being constructed and arranged to operate substantially in the manner described and set forth, and for the purpose specified.

No. 33,526.—JABEZ W. HAYES, of Newark, N. J.—*Improvement in Apparatus for Printing Bank Notes.*—Patent dated October 22, 1861.—This invention consists in the adoption of a method similar to that employed in striking up coins and medals, viz: the strict confinement of all the parts when in the act of printing, to which is added the application, first, of a set or stated pressure to the plate and paper preparatory to the full impression, and upon this the application of a secondary pressure, progressive or cumulative, in character with very great momentum, resolving itself at last, by reason of its momentum, into a blow.

Claim.—First, the plunger J, with a rubber or analogous face or covering, in combination with the chase I and platen B, operating in the manner and for the purpose substantially as described.

Second, the levers E H, step block G, and platen B, with the plate A and screw D, the whole combined and operating in the manner and for the purpose substantially as described.

No. 33,527.—CHARLES W. IRWIN, of St. Louis, Mo.—*Improvement in Cot Frames.*—Patent dated October 22, 1861.—In each end of the head and foot pieces is cut a mortise, into which the side rails are inserted. The legs are pivoted to the head and foot pieces between the ends of the rails, so that they can be folded up against the said pieces.

Claim.—The head and foot pieces A A, rails B B, and legs *c c*, when the whole are made and arranged with respect to each other, substantially in the manner described, for the purpose specified.

No. 33,528.—WILLIAM B. JOHNS, of Georgetown, D. C.—*Improvement in Convertible Cloaks and Tents.*—Patent dated October 22, 1861.—This invention consists of a peculiarly-shaped sheet, which may be secured around a soldier's kit so as to form a knapsack, and also be used as a military cloak. By means of hooks and eyes a number of these sheets may be secured together to form a tent.

Claim.—The addition of a triangular-shaped flap B to the rectangular-shaped body A of my improved convertible military equipment, when the said military equipment has substantially the form and proportions shown in the accompanying drawings.

Also, when my improved military equipment has substantially the shape represented in the accompanying drawings, forming a slit *p* in the said equipment in the position shown in said drawings, and for the purpose set forth.

Also, when my improved military equipment has substantially the shape represented in the accompanying drawings, furnishing one end and one side of the rectangular portion thereof with a single series of hooks *e e* and a double series of eyes *f f*, substantially as represented in said drawings.

No. 33,529.—GEORGE C. LANE, of Buffalo, N. Y.—*Improved Camp Chest.*—Patent dated October 22, 1861.—This chest consists of two equal parts. Two supplementary covers are hinged on the front side of its top and bottom; the covers are further secured to the chest by hasps, which, being buttoned on to pins, are fastened together. On the inside of the chest is a bolt passing through the top and bottom into the supplementary covers, to render them firm. By this construction the chest is readily converted into a table.

Claim.—The combination and arrangement of the supplemental covers B1 and B2, hasp E, movable dowel *b*, and locking device F, operating substantially as set forth and for the purpose specified.

No. 33,530.—CHARLES F. LEISEN, of Philadelphia, Pa.—*Improvement in Breech-Loading Ordnance.*—Patent dated October 22, 1861.—The breech is provided with a screw thread and with handles; portions of the screw thread are removed by cutting grooves therein at equal distances apart. In the counterbore of the body of the gun corresponding screw threads and grooves are cut; the width of the portions of the thread between the grooves on the breech-piece being rather less than the grooves in the counterbore. The breech is turned to the position indicated by the screw threads on the breech, being opposite the grooves in the thread of the counterbore, by taking hold of the handles. The breech is then drawn bodily backward out of the counterbore, a metallic ring in which a portion of the breech fits and a slide arranged below the counterbore coming back with it and supporting it, and when withdrawn from the counterbore the breech drops into a position for the reception of the cartridge, and being pushed into the counterbore and turned it is screwed up tightly ready for firing.

Claim.—The combination of the chambered breech, constructed and fitted to the body of the gun as described, the ring C and the slide D, when the whole are arranged to operate and to present the breech for loading in the position and condition described.

No. 33,531.—LOUIS LELONG and JOHN DECAMP, of Newark, N. J.—*Improvement in Implements for Feeding Percussion Caps.*—Patent dated October 22, 1861.—The caps are placed with their open ends upward in a box of the exact depth needed to keep the caps from turning over when the lid is closed. Upon turning the box downwards the gravity of the caps will, from the peculiar pointed shape of the end of the box, place a single cap at a point where it stands against the box on one side and against a jaw on the other side, which latter vibrates on a hinge and is moved by a small knob held in position by a spring. A pressure upon the said knob allows the cap to slip to the end of the box where it is held by the end of the jaw.

Claim.—The percussion-cap holder and primer, when constructed, arranged, and combined, substantially in the manner and for the purpose set forth.

No. 33,532.—JOHN B. LOVE, of Philadelphia, Pa.—*Improvement in Iron Vessels and Water Batteries.*—Patent dated October 22, 1861.—Wrought iron or steel plates provided with

recesses and flanges fitting together are formed into a plate and placed in the upper tier. A lower series of plates of the same width and thickness as the upper series are edged together. Both series are secured to the wall of the vessel by conical bolts, and between the laps is inserted a compressible metal or a vulcanized gum cloth.

Claim.—First, the manner described of constructing the plates so as to combine them together with each other and the walls of an iron war-vessel or water battery, the same consisting of the flush lapping of the edges of the plates, the intermediating packing E, and the conical draw-bolts D, the whole being constructed and combined together with the wall A, substantially in the manner described and set forth.

Second, the projecting flange c on the plates of the upper series B, when the same is made to rest directly upon the upper edge of the wall A, substantially in the manner described, and for the purpose of supporting the said plates more securely.

Third, the cap F, when the same is constructed as described and applied to operate in combination with the upper edge of the wall A and the upper series of plates B, substantially as described and for the purposes specified.

No. 33,533.—WILLIAM MCINTOSH, of Wilmington, Ill.—*Improvement in Grain and Grass Harvesters.*—Patent dated October 22, 1861.—Attached to the driving wheel is a concentric toothed rim into which a pinion gears, the pinion being on the outer end of a shaft provided with a zigzag or serpentine cam. The sickle works in the finger-bar, at the outer end of which is a shoe having a wheel at its back. To the upper surface of the sickle, at its inner part, two friction rollers are attached, between which the serpentine rim of the cam works.

Claim.—In combination with the serpentine cam H and rollers *f f*, or their equivalents, the rollers *d d*, placed in the bar *c* of the main frame A, and arranged relatively with the sickle K, so as to serve as bearings for its back edge behind the cam H, as shown and described.

No. 33,534.—CHANDLER MCWAYNE, of Sacramento, Cal.—*Improvement in Railroads and Cars.*—Patent dated October 22, 1861.—This invention consists in the construction of a railroad with a single elevated rail, and having a car placed or suspended thereon, so arranged as to be balanced on the single rail, however unequally passengers or freight may be disposed in the car, provision being made for keeping the car in a proper horizontal position while being loaded and unloaded.

Claim.—First, the elevated rail A, when used in connexion with a car B placed or suspended thereon in a state of equipoise, substantially as and for the purpose set forth.

Second, the suspending of the seats C, in the car B, from segment plates J, connected with bars K L, which are actuated through the medium of the levers M P, for the purpose of adjusting the seats laterally when required for balancing the car on the rail.

Third, the employment or use of the weight I, attached to the windlass G on the top of the car, in combination with the inclined troughs F F placed in the car, all arranged for the purpose of balancing the car on the rail.

Fourth, the adjustable bars Q Q placed one at each side of the car B and arranged as shown, for the purpose of sustaining the car when stationary in a horizontal position, as set forth.

No. 33,535.—JOHN MELLING, of Bolton, England.—*Improvement in Machines for Making Bricks.*—Patent dated October 22, 1861.—The nature and object of this invention will be understood from the claim.

Claim.—In one machine the combination with the mechanism for forming bricks by pressing the clay into moulds, of an air-pump for exhausting the air and gases from the material in the moulds, so that the operations shall be simultaneous, as set forth.

Also, the combination and arrangement of the devices for performing the operations of filling the moulds, pressing the materials therein, exhausting the air and gases therefrom, and removing the bricks or other products made from the machine, substantially as described and for the purpose set forth.

Also, the combination with, and arrangement in relation to a travelling mould-block or plate having any required number of moulds formed therein of any desired size or shape, of the filling, pressing, air-exhausting and pushing-off devices, so as to operate as described, whereby such intermittent motion is imparted to the said mould-block as to bring it in apposition with the said filling, pressing, air-exhausting and pushing-off devices at the proper times, as set forth.

Also, the perforated plate Q′, in combination with the air-pump used for exhausting air or gases from the material in the moulds, as described.

Also, so arranging the plunger bearings as to cause the plungers to operate with permanently elastic yielding pressure while filling the moulds, substantially as described.

Also, the arrangement of devices for removing the bricks or other articles when formed from the machine, the same consisting of the lever *z* and the pushing blocks D, operated substantially as described.

Also, the combination of devices whereby an intermittent rotary motion is given to the mould-block or plate in such a manner as to carry the moulds or dies in the proper localities for the material with which they are filled, to be operated upon and remain stationary during such operations, the same consisting substantially of the eccentric wheel F′, wheel frame G, and ratchet wheel K, operating together as described.

No. 33,536.—JAMES H. MERRILL, of Baltimore, Md.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated October 22, 1861.—This invention consists in arranging the breech-plug so that it may be taken out of its channel, cleaned, and restored to it, without separating any of the parts of the arm or lever which actuates said breech-plug.

Claim.—The combination of the groove or analogous contrivances *x x* with the groove *i*, in which the mechanism by which the levers and plug are controlled in their movement, as represented in the accompanying drawings, whereby the plug or breech-pin may be withdrawn from the channel in which it moves, substantially as described.

No. 33,537.—JACOB MEYER, of Chicago, Ill.—*Improvement in Grain Separators.*—Patent dated October 22, 1861.—In this machine the grain passes from the hopper on to a screen, through which it passes to a coarse sieve, from which the sound portion finds its way through a slot in the trough, whence it falls into a wind chamber, the impurities or foreign substances passing out of the screen by an inclined spout. A sliding-box at the bottom is provided with sheet-iron plates, which are inclined so as to separate the different qualities or kinds of grain.

Claim.—The arrangement of the screen *c*, fanning-box *m*, and curved fans *n*, wind chamber *g*, and sliding-box, with its separating plates *p* and *r*, the whole constructed and operating substantially as and for the purpose set forth.

No. 33,538.—JOHN MYERS and GEORGE ELBERG, of Cincinnati, O.—*Improvement in Street Sewers.*—Patent dated October 22, 1861.—This invention consists in a system of self-closing traps or doors for the inlets of street sewers, said traps being adapted to open more or less according to the volume of the current, and, when shut, to confine the exhalations within the sewer, thus dispensing with the usual wells or water traps.

Claim.—The arrangement of doors E E, yielding corner piece F', curb B, and inclined seats *c*, or equivalent devices for the automatic closing of sewer inlets without obstructing the passages thereof, in the manner set forth.

No. 33,539.—WILLIAM NEFF, of Centre Hall, Pa.—*Improvement in Harvesting Machines.*—Patent dated October 22, 1861.—The nature and object of this invention will be understood by reference to the claim and engravings.

Claim.—First, in combination with a rolling coupling arm, the hinged V-shaped brace with its bosses for the purpose of so uniting the finger-bar to the main frame as that it may conform to the undulations of the ground over which it passes, and be turned up against and be carried by the main frame when transporting the machine from place to place, substantially as described.

Also, in combination with a hinged yielding finger-bar, a hinged platform, a hinged side piece, and the flexible and adjustable suspending devices, so that the platform may be adjusted as to height, and so that the finger-beam and platform may be folded up against, to be be carried by, the main frame when transporting the machine from place to place, substantially as described.

Also, as a clutching and unclutching device for making the wheels and axle of a harvesting machine move together or independently of each other, the combination of the ratchets *u*, star wheels *v*, with their springs, slots, and feathers, as described and represented.

No. 33,540.—MOSES M. PETTES, of West Concord, Vt.—*Improvement in Boots and Shoes.*—Patent dated October 22, 1861.—The outer portions of the sole and heel are perforated to receive metal heads, which latter are of cylindrical form and provided with flanges at their inner ends, by means of which they are retained in proper position as the sole wears away.

Claim.—The arrangement of the flanged metallic heads E, between the soles A B C D, in the manner shown and described.

No. 33,541.—ANTHONY PFUND, of New York, N. Y.—*Improvement in Shells for Ordnance.*—Patent dated October 22, 1861.—The nature and object of this invention are explained by the claim.

Claim.—The construction of projectiles for different guns, made of different sizes, and of shapes, according to the principles set forth in the specification, to consist of two principal parts of shells, united and secured together with lead or other soft metal composition, and arranged in such manner that the surrounding outside shell forms the hammer to the nipple and percussion cap, or nipples and caps, attached to the inside shell, which shell, when charged with powder or other exploding materials, and shot from a gun, will explode at the time when the projectile strikes a suitable object, in the manner set forth.

No. 33,542.—JOHN L. PIPER, of Altoona, Pa.—*Improvement in Bearing Block for Bridge Trusses.*—Patent dated October 22, 1861.—The claim and drawings explain the nature and object of this invention.

Claim.—Making the tubes for the bolts separate from the bed of the block so that they can yield or vibrate when required without injuring or breaking either the bed or tube.

Also, rounding the ends of the tubes, and fitting them to a curved seat in the bed so that they can vibrate without materially lessening the bearing surface between the bed and tube, substantially as described.

No. 33,543.—MOSES T. RIDOUT, of Milwaukie, Wis.—*Improvement in Bootjacks.*—Patent dated October 22, 1861.—This invention consists in the use of a movable toe piece which slides over the jaws of the bootjack so as to fit any sized boot, and which is pressed up by the toe of the boot into contact with ratchet teeth formed on the under side of the jaws, by which it is held in place until the boot is drawn off.

Claim.—The combination of the tooth jaws A A *a*, and sliding toe piece C *c*, constructed and operating substantially as and for the purpose set forth.

No. 33,544.—EZRA RIPLEY, of Troy, N. Y.—*Improvement in Repeating Gun Battery.*—Patent dated October 22, 1861.—This invention consists in arranging a series of gun barrels open at both ends in the form of a skeleton cylinder, to which is adapted a breech block or ring having a series of charge chambers to correspond with the series of barrels, and which, after it is fired, can be instantly detached, and its place supplied by another series ready charged. A rotary detachable spring hammer is caused to ride over a series of ratchet-shaped cams, so as to strike a blow upon each cap nipple in succession.

Claim.—The detachable rotary discharging hammer A, and separable, many chambered breeching B, when they are constructed and secured, in combination with the cylindrical series of barrels *c*, so as to permit convenient and rapid firing, and the ready detachment and reattachment of the said chambered breeching and hammer, substantially as described and shown.

No. 33,545.—JACOB RUTH, of Philadelphia, Pa.—*Improvement in Apparatus for Removing Invalids.*—Patent dated October 22, 1861.—This invention consists of a frame made to traverse near the ceiling of a room; cords attached to a windlass pass over pulleys in this frame, and thence to pulleys in a frame below; from this latter frame hang straps which are connected by hooks to bands placed beneath the invalid, who may be thus raised to the required height, and by means of the traversing frame transferred to any part of the room desired.

Claim.—The frame I, with its bands or straps, in combination with the traversing platform, and the system of raising and lowering cord described, or their equivalents, for the purpose specified.

No. 33,546.—CHRISTIAN SHARPS, of Philadelphia, Pa.—*Improvement in Hammer Guards to Fire-arms.*—Patent dated October 22, 1861.—The object of this invention is to prevent the hammer from resting on the metallic cartridge or percussion cap and it consists in the use of a curved metal strip which may be moved up so as to prevent the hammer from touching the cartridges when the gun is not in use. When the hammer is drawn back in cocking a pin projecting from it strikes against the extremity of the curved strip and draws it back out of the way.

Claim.—The curved guard D, with its projection *y*, in combination with the hammer C, its collar *x*, and pin *q*, the whole being arranged on a fire-arm for discharging metallic cartridges, as and for the purpose set forth.

No. 33,547.—Cancelled.

No. 33,548.—MELANCTHON STILWELL, of Manlius, N. Y.—*Improvement in Beehives.*—Patent dated October 22, 1861—This invention consists in a method of adapting straw in the material for construction of beehives, the straw mats composing the sides being formed at their ends so as to fit closely into clamping corners, where they are further secured by hard wood pegs. A straw mat is substituted for the honey board when the working season is over for allowing the moisture to evaporate.

Claim.—First, constructing beehives of straw, by securing the straw mats A′ to the wooden frame, by means of the clamping corner boards *c*, pegs *b*, and cords *e*, substantially as set forth and described.

Second, the straw mat D, when constructed and used, as and for the purposes set forth and described.

No. 33,549.—F. STEUBEL and AUGUST ROOS, of New York, N. Y.—*Improved Mode of Cooling Beer and other Liquids.*—Patent dated October 22, 1861.—The nature of this invention consists in passing the beer or other liquid, while hot, through a series of metal tubes, surrounded by cold water, whereby it is cooled without being exposed to the air, or suffering loss by evaporation.

Claim.—The cooler for beer and other liquids as described and referred to in the drawings attached, as set forth in the specification, or any other substantially the same, to produce the intended effect.

No. 33,550.—B. F. TABER, of Buffalo, N. Y.—*Improvement in Rotary Pumps.*—Patent dated October 22, 1861.—In determining the form of the shell and the position of the valve cylinder within it, a perpendicular line is drawn through the centre of the valve cylinder. Two other lines are also drawn through the centre at angles of 45° to the first line, dividing the cylinder into four equal parts. A part of the shell on the side of the discharge orifice is the quadrant of a circle concentric with the valve cylinder and of equal radius. The valve cylinder revolves in contact with this part of the shell forming an abutment which causes the

discharge of the liquid being pumped. The shell directly opposite is also the quadrant of a circle concentric with the valve cylinder, but of greater radius forming the suction space. The valves are caused to move steadily by flanges projecting inwardly at the sides of the slots in the valve cylinder.

Claim.—First, the formation of the shell with the concentric parts *e g* and *f h*, and eccentric parts *e h* and *g f*, as and for the purposes described.

Second, so constructing and arranging the valves, valve-cylinder, and shell, as that the valves will not be subjected to a transverse movement while doing their work, for the purposes and substantially as set forth.

No. 33,551.—A. C. VAUTIER, of Paris, France.—*Improved Mode of Extracting Filamentous Matter, similar to Silk, Cotton, and the like, from the Bark and Leaves of Various Trees.*—Patent dated October 22, 1861.—The bark, &c., is subjected to maceration in boiling water or steam, after being more or less triturated, to facilitate the division of the fibres and their separation from the fleshy parts. During the maceration, acetic acid, or alkaline solution may or may not be used, according to the quality of the water and the nature of the plants operated upon. Immediately after these operations of macerating and triturating the matter is washed a number of times in water. The matter thus obtained after being exposed to the air appears in the form of bright, white, and flexible fibres, which may be combed and spun.

Claim.—The method or process described of extracting the filamentous matter, of a silky, cottony, and other similar nature, contained in the bark and leaves of the mulberry, elm, peach, and other trees and shrubs, so as to render the product thus obtained convertible into yarns and tissues, substantially as set forth.

No. 33,552.—WILLIAM E. VINCENT and CHAUNCY B. NORTHRUP, of New York, N. Y.—*Improvement in Spring Rocking Horses.*—Patent dated October 22, 1861.—This invention consists in the use of a flat spring and check to prevent the horse from rocking back too far, whereby the ordinary coiled or flat wound springs, which are defective on account of imperfect tempering, are dispensed with.

Claim.—The combination of the flat spring E with the check-spring G, arranged and applied to the horse, substantially as and for the purpose set forth.

No. 33,553.—HERCULES M. WILSON, of Newark, N. J.—*Improvement in Operating Window Shutters.*—Patent dated October 22, 1861.—This invention consists in operating the shutter by means of a jointed lever, which is actuated by a revolving shaft and worm-wheel, the crank of the shaft being inside of the window.

Claim.—The levers, worm and screw or worm-wheel, and the shaft with the slotted top, when constructed and combined substantially in the manner and for the purpose specified.

No. 33,554.—THOMAS P. YATES, of Concord, N. H.—*Improvement in Newspaper Files.*—Patent dated October 22, 1861.—This invention consists in a folio file provided with an expanding bellows-back and loops for threading the papers through, together with an elastic tape, on each end of which is a cutting-needle, which is passed through the paper, and then through eye-holes in the back strip, which holds the papers firmly in place.

Claim.—The expanding bellows-back A, in combination with the elastic tapes G, cutting-needles E, and loops D, when the same are so arranged as to form a newspaper file, substantially as described.

No. 33,555.—JOHN DAVIS, of Elmira, N. Y., assignor to P. H. FLOYD, of the same place.—*Improvement in Holdback for Carriages and other Vehicles.*—Patent dated October 22, 1861.—This invention consists in so arranging the holdback that the breeching-strap iron will disengage itself automatically from the thills when the horse is detached from the carriage. A flat metal plate is secured to the thills, from the rear portion of which rises a hollow oval-formed stop-piece, which projects forward and upward, so as to form an opening between the front portion of the plate and the stop, which permits the ready insertion or withdrawal of the breeching-strap iron.

Claim.—A holdback composed of two parts, one part attached to the thill, the other part attached to the harness, constructed and operating substantially in the manner and for the purpose set forth.

No. 33,556.—CHAS. G. MANN, of Walpole, Mass., assignor to ALFRED B. ELY, of Newton, Mass.—*Improved Embroidering Attachment for Sewing Machines.*—Patent dated October 22, 1861.—This invention consists in the employment of a shaft, supported in a suitable frame, which is placed at such an angle to the bed of the sewing machine, or is so furnished with take-ups, that the several cords, which are delivered from the periphery of a circle or ends of arms at the lower end of this shaft, may all incline equally towards or draw equally from the point where the needle pierces the cloth, so that as the shaft is revolved the various cords may be carried by it into the path of the needle in the order and at such times as may be necessary to form the pattern required, thus allowing the use of as great a number of cords or braids as the circle will accommodate.

Claim.—Delivering the threads, braids, or cords in the path of and before the needle of a sewing machine, for the purpose of having the same sewed or embroidered upon cloth or other substances through or by means of a shaft, rotating continuously or alternately, and operating substantially as described.

No. 33,557.—JAMES PINE, of Troy, N. Y., assignor to Himself and J. J. VIELE, of the same place.—*Improvement in Grain and Grass Harvesters.*—Patent dated October 22, 1861.—This invention consists in attaching the gear frame to the main frame, and having the wheel which moves the sickle placed closely on the driving shaft, and not connected directly with the gear frame, thereby preventing any downward pressure on the latter. The rear end of the draught pole is made adjustable vertically, so as to cause the sickle to cut higher or lower. The finger-bar being attached to the front of the gear frame, and the back end of the gear frame fitting loosely on a fixed shaft, said finger-bar is made to accommodate itself to the inequalities of the ground, while a rod attached to the said shaft serves as an efficient brace for the finger-bar, and secures it against horizontal deflection.

Claim.—First, the combination of the gear frame F and gear wheel G H, journaled independently upon the shaft E, secured rigidly in the main frame C, in the rear of the axle A.

Second, the combination of the finger-bar H′, joint *f*, gear frame F, fixed shaft E, brace-rod I, axle A, and main frame C, constructed, arranged, and operating in the manner and for the purposes shown and explained.

No. 33,558.—DAVID F. RANDALL, of Hartford, Conn., assignor (through mesne assignment) to S. S. ROGERS and GREEN KENDRICK, of the same place.—*Improved Burnishing Machine.*—Patent dated October 22, 1861.—This invention consists in producing a uniform pressure of the burnisher upon the variable surface of a spoon, fork, or other article by means of a pattern which may be represented by the shape of the upper or lower side of a spoon, fork, &c., corresponding to the one to be burnished. The extent of the motion of the burnisher is regulated by means of an adjustable crank-pin, which is moved back and forth in a a slot, so as to give more or less motion to the levers which actuate the burnisher.

Claim.—The combination of the pivoted spring spindle burnisher-holder *d e a* with the pattern D, substantially as and for the purpose described.

Also, the combination of the slotted flange-plate F with the Z-shaped stud H and the slotted lever K, arranged and operating substantially as and for the purpose described.

No. 33,559.—HENRY RANDALL, of Philadelphia, Pa., assignor to Himself and ISAAC P. BALDWIN, of New York, N.Y.—*Improved Method of Framing Steamships of Light Draught.*—Patent dated October 22, 1861.—A number of ribs project up above the main deck, and are capped by a vertical arch springing from stem to stern, and terminating in the dead wood at each end of the ship. Interwoven with this and the ribs is a counter arch extending nearly from stem to stern, the greatest point of its curve resting on the bilge keelsons, and strapped and bolted through its entire length to the side of the ship. The connexion of the main deck timbers with the ribs is capped by a horizontal arch springing nearly from stem to stern, of a sufficient curvature to embrace the paddle boxes. Iron tension braces tie together the different sections of the ship, so as to prevent any twisting motion. Other diagonal braces, which are usually placed on the inside of the ribs, are in this case placed on the outside, and serve to hoop the ship's frame firmly together.

Claim.—First, making the main deck timbers of a steamship project outboard sufficiently far to be trimmed off and be capped by a horizontal arch of sufficient curvature to embrace the paddle-boxes, and extending nearly from stem to stern, substantially as described.

Second, in combination with the above, making a sufficient number of the ribs extend above the main deck timbers, to which they are firmly connected, far enough to be trimmed off and be capped by a vertical arch springing from stem to stern, or n arly so, substantially as described.

Third, in combination with the foregoing, the inverted counter arch, substantially as described.

And, lastly, in combination with all above, the adjustable iron tension braces E E, (Fig. 1,) substantially as described.

No. 33,560.—FRANCIS J. VITTUM and EDGAR M. STEVENS, of Boston, Mass., assignors to ALFRED B. ELY, of Newton, Mass.—*Improvement in Breech-loading Fire-arms.*—Patent dated October 22, 1861.—This invention consists in making the charge chamber materially larger in diameter than the bore of the gun, the same for all ordinary uses, exceeding in capacity the bulk of the powder to be used. In the rear of the breech is a cavity for receiving a movable breech-piece; this cavity is closed by hinged doors or lids, and fastened, when shut, by spring catches. The sliding breech-piece is operated by means of a crank, around the shaft of which is a coiled spring, for the purpose of pressing a projecting pin of the crank arm into a slot in the sliding breech-piece, and is locked in place by means of an index finger attached to a button and taken into holes to which it is fitted.

The advantages claimed are, that while with ordinary caps and powder a less quantity of powder may be used, the whole of the powder will be essentially consumed in the charge

chamber; the cap may be placed inside the chamber and near the ball; the explosive noise may be diminished and the projectile power increased; the cap and charge protected from dampness, and the recoil essentially lessened.

Claim.—First, the charge chamber, materially larger in diameter than the bore of the gun, and containing a charge of powder less in bulk than the area of said chamber, substantially as and for the purposes set forth.

Second, the device for moving and locking the laterally-moving chambers, constructed and operating substantially as set forth.

No. 33,561.—JOHN G. WEST, of Norristown, Pa., assignor to JANE H. WEST and M. C. BOYER, of the same place.—*Improvement in Valves and Valve Motion for Steam Engines.*—Patent dated October 22, 1861.—This invention consists in an arrangement of steam and exhaust valves with their seats and chests in respect to the cylinder, whereby a ready adjustment of the valves is effected and the usual waste of steam is obviated. The steam and exhaust valves are placed as near as possible to the bore of the cylinder, so as to prevent, in the case of the steam valve, the loss of steam remaining in the usual lengthy passages at every movement of the valve, and in case of the exhaust valve, to prevent the retention of an inconvenient amount of waste steam in the cylinder after the exhaust valve has closed.

Claim.—First, the arrangement described of the steam valves H, with their seats and chests, and the exhaust valves K, with their seats and chests, in respect to the cylinder, for the purposes specified.

Second, the arrangement and combination described of the shaft M, the sleeve N, with its projections *e* and *e'*, the levers S and Y, and steam valves H.

Third, the arrangement and combination described of the shaft M, its cams *i* and *i'*, the levers X and Z, and the exhaust valves K.

No. 33,562.—CHARLES S. WESTLANDT, of Providence, R. I., assignor to ADIN ALEXANDER, of Providence, R. I., and WILLIAM J. INNIS, of North Providence, R. I.—*Improvement in Lubricating Cup.*—Patent dated October 22, 1861.—This invention consists in the use of a box for holding tallow or other similar lubricating material, in the interior of which is placed a follower, for the purpose of compressing the lubricating material upon the bearing. A spring operates the follower, which is kept in place by guide rods fastened thereto and passing through the top of the cup. These rods also serve to indicate when the cup is empty. The pressure of the follower is regulated by friction straps placed on top of the cup and embracing the guide rods.

Claim.—The cup for holding the lubricating material, in combination with the follower, spring guide, rods, and friction straps, substantially as described.

No. 33,563.—WYLLYS AVERY, of Salisbury, N. Y.—*Improvement in Window-Blind Fastening.*—Patent dated October 29, 1861.—In this fastener a hooked catch is secured to the window blind, and a similar one to the sash. When the blind is closed its catch is in a position to be caught and held by the catch on the sash when it is shut down, thus holding the blind until the sash is raised.

Claim.—The combination of the catch upon the shutter with that upon the sash, so arranged that when the sash is lowered the blind will be secured, and the converse, substantially as specified.

No. 33,564.—WILLIAM BEACH, of Hamden, Conn.—*Improved Tanning Composition.*—Patent dated October 29, 1861.—This invention consists in the combination with terra japonica or other well-known tannin, of sumach, glauber salts, sal soda, saltpetre, common salt, and rye bran, the several ingredients being mixed in their proper proportions and dissolved in warm water.

Claim.—First, the use of rye bran in tanning compounds for the purpose set forth.

Second, the within-described tanning compound, composed of the several ingredients named, in substantially the proportions described.

No. 33,565.—LESTER C. BEARDSLEY, of Cleveland, O.—*Improvement in Ventilators for Railroad Cars.*—Patent dated October 29, 1861.—A galvanized iron case contains a reservoir and a perforated plate, and is provided with a funnel-shaped tube, which passes into the ventilator a little below said perforated plate. Another tube passes through the car and enters the top of the ventilator. The funnel-shaped tube by which the air enters the ventilator is adjusted by means of a rod passing through the top of the car, the open end being turned in the direction in which the car is moving; the other tube receives the foul air from the car, whence it passes through the ventilator. By reversing the funnel-shaped tube the air is ejected from the car. Cinders and dust are prevented from entering the car by coming in contact with the tube, which is surrounded with water.

Claim.—The reservoir I, perforated plate J, tubes L and H, and reversible funnel K, when combined, constructed, and operated as described.

No. 33,566.—D. C. BROWN, of New York, N. Y.—*Improvement in the Running Gear for Four-Wheeled Vehicles.*—Patent dated October 29, 1861.—The object of this invention is to

admit of the use of large forward wheels, so that the carriage can be turned within a narrow compass; and it consists in constructing the main reach with an enlarged circular part, which serves as a bed for the superincumbent mechanism, and which is attached at each end to the axles by means of king bolts. Attached also to the axles are frames or supplemental reaches, meeting nearly in the centre of the main reach, and provided on their under sides with curved tracks which travel in corresponding ways, directly over which are arranged two toothed segments that gear into each other. The rear segment is provided with an eccentric notch, into which fits a sliding spring detent, so as to keep the rear axle at right angles with the main reach against ordinary obstructions in the road.

Claim.—First, toothed movable segment D and segment E, in combination with the sliding spring-button or detent H, when constructed and operating substantially as and for the purpose above set forth.

Second, the movable segment D, when constructed and operating as described, to yield to the forward axle and wheels a limited motion independently of that imparted to the hind axle and wheels.

Third, the tracks *b b* and ways *c c*, in combination with the frames or supplemental reaches C C, as and for the purpose described.

No. 33,567.—S. BURR, of Cedar Grove, Wis.—*Improvement in Washing Machines.*—Patent dated October 29, 1861.—The object of this invention is to include within the frame of a single machine a washing machine, and also a press which may be used for pressing the water from wet clothes; and the invention consists of an upright frame carrying a cranked shaft, to which are attached dashers and a press built in the frame of the machine, and worked by levers connected with the frame. The bottom of the press is supported on blocks of India rubber.

Claim.—The washing machine, constructed and arranged substantially as described, with a cranked shaft working the dashers of a tub, and a press with an elastic bearing delivering the drainage to the tub, combined in the manner specified.

No. 33,568.—N. F. BURTON, of Plymouth, Ill.—*Improvement in Ploughs.*—Patent dated October 29, 1861.—This invention relates to a gang plough designed for surface and subsoil ploughing, and consists in an arrangement of parts whereby the depth of the furrows may be regulated as desired and the soil thoroughly broken up. The novelty consists in the arrangement of the parts, the separate devices being disclaimed.

Claim.—The combination of the subsoil plough I with the surface plough M, when said ploughs are attached to adjustable beams A A, arranged substantially as and for the purpose set forth.

Also, in combination with the subsoil and furrow ploughs I M, the roller K attached to the frame J, and arranged to operate conjointly with the ploughs, as set forth.

Also, the attaching of the axle D to the beams A A' through the medium of the bail-shaped rod L, in combination with the arm H attached to the axle D, and having its bearing or fulcrum on the rod L, as described, whereby the depth of the penetration of both shares may be regulated as desired.

No. 33,569.—HENRY W. CADY and JAMES M. CARPENTER, of Pawtucket, R. I., and GILMAN K. WINCHESTER, of Providence, R. I.—*Improvement in Braiding Machines.*—Patent dated October 29, 1861.—In making braid more than one-quarter of an inch wide the greater friction produced between the necessarily large number of threads crossing each other prevents them from being drawn up close together, more especially at their edges. To remedy this difficulty, use is made of stiff pieces of steel called beaters, with their extremities terminating in a drawn-out flattened finger, two beaters being used, one for each edge of the braid. The forward and upward movement of a lever to which each of the beaters is rigidly attached, together with its slide toward the centre of the machine, causes the finger to open the crossing threads and pass them up towards the braid-making point.

Claim.—The employment in braiding machines of devices such as we have termed "beaters" applied to operate between the threads, substantially as and for the purpose described.

Also, giving the said beaters a distinct and separate rising and falling movement as well as a movement toward and from the centre of the machine or point where the braid is produced, substantially as and for the purpose set forth.

No. 33,570.—WESLEY CHASE, of Buffalo, N. Y.—*Improved Combined Camp Chest and Table.*—Patent dated October 29, 1861.—The claim and engravings explain the nature of this invention.

Claim.—First, the combination of extension leaves A B (one or both) and hinged legs C, for supporting the leaves when extended, with a camp chest, in the manner and for the purpose substantially as set forth.

Second, the combination of the corner pieces J with the removable legs and chest as a means of fastening the removable legs to the chest, for the purposes and substantially as described.

Third, fastening the removable legs to the outside of the chest for transportation, in the manner and for the purposes substantially as set forth.

No. 33,571.—STILLMAN A. CLEMENS, of Rockford, Ill.—*Improvement in Machines for Sawing Firewood.*—Patent dated October 29, 1861.—The saws are used without saw-frames, by making their teeth of such form as will cut chiefly in the direction in which the saw is pulled by vibratory arms, and the saws are raised, lowered, guided, and adjusted to their work by friction rollers supported on their back and toothed edges above and below. The wood is placed upon a rest near one end of the machine, and lies so low that ordinarily the workman can put one foot upon the wood to steady it while he operates the handle.

Claim.—Operating one or more saws *c c* by the oscillating frame composed of the arms *f* and *h*, the brace *j*, and handle *i*, in connexion with the forked rest *b* and the device for guiding, feeding, and suspending the saws by the rollers *l* and *p*, arranged to run upon the back and toothed edges of the saws, substantially as described and for the purposes set forth.

No. 33,572.—L. CONROY, of New York, N. Y.—*Improvement in Street-Sweeping Machines.*—Patent dated October 29, 1861.—This invention consists of a means for rendering the endless apron so flexible as to conform perfectly to the inequalities of the surface of the street, and be kept in a properly taut state at all times, and also be capable of being raised and lowered automatically with the opening and closing of the bottom of the dirt box, so that the apron and its concomitant parts may readily pass over the discharged dirt. In connexion with the above is used a flexible comb or plane, which will adapt itself readily to the inequalities of the surface of the ground, and be capable of being readily elevated when necessary.

Claim.—First, the arrangement of the rollers Y *o**, connected through the medium of the frames X, levers W, rods *k**, and links *l**, the levers W being on the shaft V, which has its ends fitted on slots *f**, in the sides of the box or framing A, and is connected to the plates P P by bars *r**, substantially as and for the purpose set forth.

Second, the arrangement of the sliding and revolving cylinder I, straps or belts R R, levers Q, and pulleys S S, on shaft T, substantially as shown for the purpose of readily raising the sweeping apron M when desired.

Third, connecting the bottom D of the box C to the slides H H, (of the cylinder I,) by means of the cords *c c*, when said cords, thus attached, are used in connexion with the straps or belts R R, levers Q, connected with the plates P, and all arranged as shown, to admit of the automatic, simultaneous elevation of the sweeping apron M with the discharging of the contents of the box C, as set forth.

Fourth, the plates L, fitted on the axle K, secured to the cloth or canvas *f*, and constructed and arranged substantially as described, to form a flexible inclined plane or surface for the sweeping apron M to convey the dirt up to the box C, as set forth.

Fifth, the bar or rod M*, connected to levers N N, which are secured to the bars J J, and connected to the shaft O by cords *g g*, substantially as shown, to admit of the elevating of the plates L when desired.

No. 33,573.—RICHARDSON CODDINGTON, of Leonidas Township, and DOUGAL MCCALL, of the Township of Kalamazoo, Mich.—*Improvement in Ploughs.*—Patent dated October 29, 1861.—In connexion with the several parts composing the plough is a fastener provided with a notched slide plate and spring, the slide being moved by a lever. It is placed in the rear end of the beam, and is designed to secure the same at the several adjustments of the reversible plough.

Claim.—The combination of the parts as follows: A, beam and handles; B, standard bolt; C C, cutters; D D, right and left mould boards; E E, reversible shares; F, fastener; G, frame work, and H H, false land sides, when arranged and constructed substantially as and for the purpose described.

No. 33,574.—GEORGE H. COOK, of New Brunswick, N. J.—*Improved Mode of Separating Compounds of Iron from the Water of Salt Wells and Springs.*—Patent dated October 29, 1861.—The nature of this invention is explained by the claim.

Claim.—The use of black or peroxide of manganese in hastening the separation or precipitation of oxide or other compound of iron from the water of salt springs or wells.

No. 33,575.—ROBERT R. CROSBY and JOSEPHUS HARRIS, of Boston, Mass.—*Improved Clothes-Wringer.*—Patent dated October 29, 1861.—In this machine the bearings of the lower roll are permanent, the journals of the upper roll revolving in slots, so as to allow it to rise and fall therein. A double lever, having its short ends resting upon the journals of the upper roll, and its long end extending vertically, unite in the horizontal piece at the top, which is embraced and acted upon by a rubber spring. Said spring also embraces a lever, by raising and depressing which the required pressure upon the upper roll is produced.

Claim.—The arrangement of the lever C and spring D, combined and operating substantially as set forth.

No. 33,576.—HENRY DAVIES, of Portsmouth, O.—*Improvement in Swings.*—Patent dated October 29, 1861.—This invention consists in suspending in the rear of the seat-supporting rods additional rods, to the lower end of which is attached a foot-board or treadle, so arranged in connexion with the seat that, by pressing the board with the feet, a backward motion will

be produced, and on raising the feet the swing will come forward by gravity, and by repeating the operation, the swing will rise to any desired height.

Claim.—The application of a foot-board, connected in such a manner to rods or cords, suspended either back or in front of the points C, so as to enable a person to operate the swing while in it.

No. 33,577.—C. H. DENISON, of Brattleborough, Vt.—*Improved Mode of Attaching Hubs to Axles.*—Patent dated October 29, 1861.—This invention is designed for children's carriages, and consists in fitting a rod longitudinally in the arm of the axle, and providing it at its outer end with a button attached eccentrically to it, the inner end of the rod being provided with an arm and crank for turning the rod, thereby adjusting the eccentric, which, in a certain position, retains the hub on the axle.

Claim.—The rod F, fitted in the arm B of the axle C, and provided at one end with the eccentric or button G, and at the opposite end with an arm or crank *b*, as and for the purpose set forth.

No. 33,578.—L. M. DOUDNA, of Amherst, N. H.—*Improvement in Hand Mowing Machines.*—Patent dated October 29, 1861.—This invention consists in mounting an ordinary hand frame on wheels the axis of which is provided with a serpentine cam, which, as the machine is moved along, vibrates a bar having a segment cutter at its outer end, the said bar working over a stationary segment cutter plate, and the upper plate moving in the arc of a circle.

Claim.—The combination of the stationary cutter plate H and vibrating cutter plate J, operated through the medium of the bar I and serpentine ledge F, which is attached to the drum E of the wheels D D, all being arranged substantially as and for the purpose set forth.

No. 33,579.—NOAH DOWING, of Brooklyn, N. Y.—*Improvement in Safety Belts.*—Patent dated October 29, 1861.—This invention consists of a metallic belt, to be worn about the body, and provided with a metallic box or case for containing money or valuables.

Claim.—The combination of the metallic belt A with the box or pocket B, the same being used and secured substantially as and for the purpose specified.

No. 33,580.—JOHN EVANS, of New Haven, Conn.—*Improvement in Machines for Heading and Trimming Spring Heads.*—Patent dated October 29, 1861.—This invention consists in mechanism for gauging the heads to an uniform size, and in an arrangement of adjustable right and left hand dies, in connexion with a punch for trimming the ears of the spring head separately from the under side. The ears are welded to the outer leaf, and placed upon the counter die with their inner edges resting against the adjustable gauges. The stationary die causes the end of the leaf and ears to conform to the shape of the cup die. The headed spring is then placed between dies, the back of the spring head resting against a guide pin, and the front and under portion of one of the ears resting upon the die. The die then cuts the ear only, leaving the barb on the outside of the head, which is easily removed in finishing.

Claim.—First, the combination of the adjustable gauges J J with the counter die H and plate I, when arranged and operating in the manner and for the purposes described.

Second, the right and left hand punch M, in combination with the adjustable right and left hand dies L L and gauge pin *n*, when arranged and operating in the manner and for the purposes described.

No. 33,581.—JOSEPH R. GATES, of Louisville, Ky.—*Improvement in Cider and Wine Mills.*—Patent dated October 29, 1861.—This invention consists in the use, in connexion with a toothed cylinder, of one or more swinging crushers hinged to the hopper-box for the purpose of retaining the fruit while being crushed between the cylinder and concave. In the lower part of the framing is a platform, upon which are placed the fruit or pomace receptacles in which is arranged to operate a plunger actuated by means of a screw at the end of the framing.

Claim.—First, the employment or use of the vibrating, crushing, and fruit-retaining bars P P, one or more in connexion with the cylinder G and concave J, or their equivalents, all arranged to operate substantially as and for the purpose set forth.

Second, the arrangement of the crank-shaft N, connecting rods O O, with the gearing C D E M, and shafts B F, substantially as shown for operating simultaneously, and from one and the same driving shaft B, the rotating cylinder G, and vibrating bars P P.

Third, in combination with the vibrating, crushing, and fruit-retaining bars P P, cylinder G, and concave J, the inclined guide-board Q, arranged in relation with the cylinder, bars, and concave, to direct or guide the fruit properly between the cylinder and concave, as set forth.

Fourth, the two fruit or pomace receptacles S S placed upon a platform R, when said receptacles and platform are used in connexion with a screw T and plunger W, and also with a crushing device formed of the cylinder G, concave J, and vibrating bars P P.

No. 33,582.—CHRISTOPHER GRIMSHAW, of Milwaukie, Wis.—*Improvement in Breech-loading Ordnance.*—Patent dated October 29, 1861.—This invention relates to that class of

breech-loading cannon whose bore extends completely through the cannon, and has a movable plug inserted transversely of the latter; and the invention consists in making the plug of a round, tapering shape, ground to fit the transverse aperture and of larger diameter than the bore so as to form a gas-tight joint. When in position the plug is secured by a key.

Claim.—A breech-loading cannon bored completely through from end to end, and provided with a circular tapering solid breech plug, ground to fit a corresponding aperture extending transversely through the bore, and of larger diameter than the latter, all as explained.

No. 33,583.—WILLIAM and GEORGE HANLON, of New York, N. Y.—*Improved Portable Apparatus for Gymnastics.*—Patent dated October 29, 1861.—The object of this invention, the nature of which will be understood from the claim and engraving, is to combine within the limits of a room of moderate size all the fixed apparatus commonly employed in gymnastic exercises, and to make such parts conveniently adjustable for persons of different size and strength.

Claim.—First, the substitution for the inelastic cords and weights of the pulling apparatus of a series of elastic cords so combined with the pulling handles that the several cords can be separately attached to and detached from the said handles at pleasure, substantially as and for the purpose specified.

Second, the horizontal handles K K, constructed with hooks *e e*, and fitted to a series of mortises *d d* in the post B, or other equivalent upright support which permit of their adjustment at different distances apart, substantially as and for the purpose set forth.

Third, making one of the parallel bars adjustable nearer to or further from the other at pleasure, substantially as and for the purpose specified.

Fourth, combining in one apparatus the inclined and horizontal ladder, the trapeze, the pulling apparatus, and the parallel bars, by an arrangement of parts substantially as specified.

No. 33,584.—P. M. HANNAS, of Easton, Pa.—*Improvement in Water Wheels.*—Patent dated October 29, 1861.—This invention consists in constructing the gate-box in two parts, so arranged that access can be had to the interior of the casing without removing it from its foundation; also in the use of an annular plate and rings, so that by a partial turn of the plate the rings may be moved to and from each other, thereby admitting more or less water to the wheel at pleasure. The said rings are connected to the gate in such a manner that the movement of the former may be controlled by the latter. The wheel is made in two parts secured to one vertical shaft, each wheel being composed of a plate to which the shaft is connected, and of annular plates, in the space between which are arranged curved buckets, and between flanges are also a series of buckets curved in the reverse direction. Within each wheel is a circular stationary block having a flange, the concave portion of each block being provided with any convenient number of vanes.

Claim.—First, the gate-box made of the two pieces, F and G, the former being detachable from the latter, and both being constructed and arranged as and for the purpose specified.

Second, the rings E and E′, applied to the wheels as set forth, in combination with the annular plate *h* and the devices described, or their equivalents, whereby the said rings may be moved from and towards each other by the turning of the said plates as described, for the purpose specified.

Third, the rings E and E′ and the annular plate *h*, in combination with the gate H and the lever K, or its equivalent, the whole being arranged and operating substantially as described, so that the movement of the rings may depend upon that of the gate.

Fourth, the wheel composed of the buckets M, with their inclined outer ends, and the reacting bucket N, between the inclined flanges *q* and *r*, the whole being secured to the shaft L, in combination with the stationary block P, its concave sides and curved vanes Q, the whole being arranged as and for the purpose described.

No. 33,585.—THOMAS HARBOTTLE and M. FIELD FOWLER, of New York, N. Y.—*Improved Apparatus for Directing Water to, and Maintaining Continuous Pressure upon, Hydraulic Rams.*—Patent dated October 29, 1861.—This invention consists in interposing between the pump and each of the rams of the series an arrangement of valves and cocks, by means of which the pressure may be continued on each of the tiers of bags to be operated upon, not only while the pump is actually employed upon its ram, but also during nearly the whole of the time the pump is engaged upon the ram of the other tier.

Claim.—Interposing between the pump and each of the rams of the series, the described apparatus to effect the maintenance of the pressure upon either of the said rams, while the pump is acting upon others of the series of rams, in the manner and for the purpose set forth.

No. 33,586.—SAMUEL HERBERT, of New York, N. Y.—*Improved Canteen.*—Patent dated October 29, 1861.—This invention consists in constructing a canteen of such a form as to admit of a large opening being made in the top for the purpose of introducing any article to be cooked and for the purpose of cleaning. Legs are attached to the canteen to be used when cooking is to be performed, so arranged as to be compactly folded. To the under side of the cover within the can is suspended a drinking cup.

Claim.—First, the legs J J, screw cap D, and mouth tube E, with a soldier's cooking canteen, when combined, arranged, and operating in the manner and for the prrposes described.

Second, attaching a drinking and cooking cup to the inside of a canteen, substantially as described.

No. 33,587.—GEORGE J. HULING and ALBERT TAPLIN, of Providence, R. I.—*Improved Stove-Cover Lifter and Poker.*—Patent dated October 29, 1861.—The extremity of the rod terminates in two projections, one of which is used as a stove-cover lifter, and the other as a poker.

Claim.—The invention of the combination of the two, as shown.

No. 33,588.—JOHN H. IRWIN, of Beardstown, Ill.—*Improvement in Lamps.*—Patent dated October 29, 1861.—The orifice of the wick-tube extends through an oval plate attached to it near its upper end. A cone or deflector is fitted on the cap which screws into the lamp, and extends just above the top of the wick-tube; the deflector has a slot in its upper end, the sides and ends being curved inward. The top of the cone around said slot inclines downward toward the wick-tube, and to a point just above the top of the wick-tube. The cone deflects the air that passes into the cap against the base of the flame, and a large volume of air concentrated at this point causes a brilliant flame.

Claim.—Forming a bearing 4 for the rod F, of the wick-wheels 6 6, by turning or bending the part 3 of the wick-tube between the slots 2 2, as and for the purpose specified.

No. 33,589.—JOHN JENNINGS, jr., of Natick, Mass.—*Improvement in Spoke Shaves.*—Patent dated October 29, 1861.—This invention consists in making a saw kerf or slit through each tang hole, a screw being passed transversely through each slit. The screw, when turned, binds the head of the tang against the stock, and thus, as the tang hole wears away, a means of adjusting, or rendering it smaller, is provided.

Claim.—The improved stock as made, with kerfs *d d* arranged within it and with respect to its tang holes *c c*, and to receive screws, substantially in the manner and for the purpose specified.

No. 33,590.—ISAIAH JOHNSON, of Alliance, O.—*Improved Non-Swagging Gate-Post.*—Patent dated October 29, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—The arrangement of the cap C, brace *g*, post B, and sill A, forming a non-swagging gate-post, constructed and operating as and for the purpose set forth.

No. 33,591.—JOHN E. LAYTON, of Pittsburg, Pa.—*Improved Back-Plate and Chimney-Throat for Fireplaces.*—Patent dated October 29, 1861.—This invention consists of a flat rectangular back-plate, and a throat-piece of the same width, having parallel sides and a long and narrow aperture, so inclined to each other that when in place the back-plate will slope more or less upward from the rear wall, and the aperture of the throat will incline upward and backward from the front.

Claim.—The construction of a throat-piece and back-plate for open fireplaces, combined in one piece, as a new article of manufacture.

No. 33,592.—GEORGE MCILWAIN, of Philadelphia, Pa.—*Improvement in Cases for Water and Gas Cocks.*—Patent dated October 29, 1861.—A tube of the form of a hollow frustum is placed vertically over the plug or cock. Placed loosely around the top of said tube is a cap provided with a metal cover. The cap is left free to rise and fall during freezing and thawing temperatures, and the tube from its conical form and smooth exterior retains its vertical position and carries off on its outside any water that may leak down through the joint between the cap plate and its lid.

Claim.—The cap B, provided with the opening *e*, and lid C, as described, when the said cap is applied and adjusted over the upper end of the tube A, so as to rest independently of the said tube, directly upon the gravel or sand which may be used to support the latter and the usual pavement, in the manner described and set forth and for the purposes specified.

No. 33,593.—AARON H. MILLER, of Laporte, Ind.—*Improvement in Sugar Evaporators.*—Patent dated October 29, 1861.—In this apparatus the evaporator is divided into two compartments, under which is a furnace arranged to move from side to side on a track. The furnace when heated causes the juice in the compartment immediately over it to boil rapidly until evaporated, when it is rolled over underneath the other; the boiled juice can then be turned off from the first compartment which is resupplied, and the process repeated.

Claim.—An apparatus for evaporating saccharine liquids, so constructed that the fire-grate or furnace is adjustable under the pan to be heated, as set forth.

No. 33,594.—WILLIAM MILLS, of New Athens, O.—*Improvement in Apparatus for Cleansing Feathers.*—Patent dated October 29, 1861.—This invention consists in the employment of an ellipsoidal steam chest or drier placed centrally within a correspondingly shaped feather

receptacle, which is suspended on an axis and provided with perforated steam-pipes. In connexion with the above is used a blast or discharging fan, the spout of which is inserted into one end of the feather receptacle, after the feathers are thoroughly dried, for the purpose of discharging them from the opposite end.

Claim.—First, the employment or use of an ellipsoidal feather receptacle B and steam-chest D, arranged as and for the purpose set forth.

Second, in combination with the ellipsoidal feather receptacle B and steam-chest D, the perforated steam tubes F E C, and blast fan G, all arranged for joint operation substantially as and for the purpose set forth.

No. 33,595.—ROBERT MORRISON, of Newcastle-on-Tyne, England.—*Improvement in Steam Hammers.*—Patent dated October 29, 1861.—This invention consists in flattening the hammer bar or making it of such a form that it will be prevented from turning on its axis, for the purpose of insuring greater accuracy in the work.

Claim.—Flattening off the hammer bar of such apparatus working through both ends of the cylinder, or any other section which will prevent the bar from turning upon its axis, substantially as described, whereby, in addition to its being longitudinally guided in the upper and lower stuffing-boxes, it is effectually prevented from turning on its axis.

No. 33,596.—S. G. MORRISON, of Williamsport, Pa.—*Improvement in Window-Sash Supporter.*—Patent dated October 29, 1861.—This invention consists in the application of some elastic material to the edge of an eccentric attached to the sash stile, the periphery of which presses against the window casing and supports the sash by leverage.

Claim.—The application of a body of gum elastic B, or any other elastic material, to the extreme point of the eccentric, or any other substantially the same, and which will produce the intended effect.

No. 33,597.—STEPHEN MOULTON, of Bradford, England.—*Improvement in the Manufacture of Springs from Rubber and Steel.*—Patent dated October 29, 1861.—Patented in England January 10, 1861.—This invention consists in imbedding spiral or other suitably shaped springs of steel or other metal into a mass of India-rubber during its formation into the required shape, and before being cured; after being so imbedded the rubber is subjected to the process of curing.

Claim.—The manufacture of India-rubber springs having steel or other metal surfaces imbedded therein to form springs and valves of various kinds, as described.

No. 33,598.—PETER PARDEE, of Washington, D. C.—*Improvement in the Construction of the Hulls of Boats.*—Patent dated October 29, 1861.—This invention consists in constructing the hull of three triangular sections, over which is built the main deck; spaces are left between the cross beams extending through the width of the vessel, so as to allow the air to circulate freely between the triangular sections and the upper deck, and thus avoid the circulation of foul or obnoxious air in the cabin, store rooms, &c.

Claim.—The combination of the three triangular hulls A and the main deck B, when constructed and arranged so that the spaces *b* shall exist between the hulls and deck, the whole operating as set forth and for the purposes described.

No. 33,599.—EDMUND PARKER, of Meriden, Conn.—*Improvement in Coffee Mills.*—Patent dated October 29, 1861.—This invention consists in forming the cross braces, which are cast radially, in connexion with the spindle box, in the shape of flaring plates or wings inclined to the surface of the grinder, so as to act as guides to conduct the grains upon the revolving grinder, and as a cracker, and also as a guard to prevent the grains from being thrown from the hopper.

Claim.—Making the braces which support the spindle box in the form of wings or inclined plates to form guides, and to cover the coffee or other grains, and to assist in cracking the same before passing between the two grinders, substantially as described.

No. 33,600.—JACOB PFEIFFER, of Niagara Falls, N. Y.—*Improvement in Railroad Signal Lights.*—Patent dated October 29, 1861.—This invention consists in attaching to railroad switches an apparatus which will work a single light showing the engineer of an approaching train the position of the switch in the night, by displaying a colored light or a white light at the pleasure of the operator.

Claim.—The described mode of attaching and working signal lights for railroad switches by means of the combination of the two levers *h* and *r*, upright staff or fork *s s*, and frame for colored glass *l*, working substantially as set forth and for the purpose specified.

No. 33,601.—CHARLES POWERS and P. LANCASTER, of Bronson, Mich.—*Improved Grain-Binding Attachment to Harvesters.*—Patent dated October 29, 1861.—In this machine the grain as it is cut falls on the platform and upon a string, one end of which is attached to a forked plate on the extremity of a lever, and the other end to a rotating head. When a sufficient quantity of grain has fallen on the platform to form a gavel, the lever is drawn up

by means of a cord, and the string is thereby woven round the gavel, the forked plate on the end of the lever forcing the end of the string down into the slot in the rotating head. The two ends of the string are thus brought into contact, and the lever being slightly raised, the head is revolved, thereby twisting the string, which is then cut off by a sliding knife, and the bound sheaf is cast from the machine. The end of the lever is received in a forked plate or guide, and rests on a spring, which facilitates a removal from the guide.

Claim.—The rotating head E, provided with the slotted plates *g*, in connexion with the swinging or adjustable arm F, provided with the plates *i* and the sliding cutter M, all being arranged and operated in connexion with the string O, substantially as and for the purpose set forth.

Also, in connexion with the head E and plates *i* of the arm F, the guide or forked plate H and spring I, as and for the purpose set forth.

No. 33,602.—HENRY W. PUTMAN, of Cleveland, O.—*Improved Apparatus for Filling Bottles.*—Patent dated October 29, 1861.—This invention consists in so combining the force-pump which injects the sirup into the bottle with a fountain of water charged with carbonic acid under pressure that by the movements of a lever the proper quantity of sirup is forced into the bottle, and on again moving the lever, the due proportion of water is admitted into the bottle through a valve, the bottle being thus filled at one continuous operation.

Claim.—So combining a force-pump by which the sirup is injected into the bottle in a given quantity with a fountain of water charged with carbonic acid under pressure, by which means the bottle is filled with due proportions of the two liquids with one continuous operation, substantially as described.

No. 33,603.—G. A. REINIGER, of Stuttgart, Kingdom of Wurtemburg.—*Improved Machine for Making the Bodies of Cigars.*—Patent dated October 29, 1861.—In this machine the leaf tobacco is conveyed continuously in a compact form by means of aprons passing through a tapering trunk to a knife, which cuts it into bunches of the required size, when they are delivered in a compact form into boxes of suitable size placed in rack-frames, to which motion is imparted in a direction corresponding to that of the feeding portions of the aprons.

Claim.—First, the combination of the taper trunk I I' *c c*, the two aprons F H, the throat J, the knife K, the revolving boxes R R, the whole operating together substantially as and for the purpose specified.

Second, the travelling racks 12 12 and boxes 15 15, applied and operating substantially as described in combination with the revolving boxes R R, for the purpose set forth.

No. 33,604.—G. A. REINIGER, of Stuttgart, Kingdom of Wurtemburg.—*Improved Machine for Putting on the Wrappers of Cigars.*—Patent dated October 29, 1861.—This invention consists in the combination of two rollers, a flexible apron, and a fixed table. The moistened wrapper is placed on the apron, a bunch of tobacco is then placed on its front part, and the bunch and wrapper and the slack of the apron is pressed down into the space between the front of the tube and one of the rollers. The rollers are then caused to roll over the table, carrying with them the fold in the apron, with the wrapper and bunch of the cigar, causing the wrapper to be rolled round the bunch of tobacco. The cigar is then discharged at the other side of the table.

Claim.—The combination of the rollers H I, the apron J, and the fixed table D, the whole operating together substantially as and for the purpose specified.

No. 33,605.—WILLIAM ROBINSON, of Rochester, N. Y.—*Improvement in Mode of Watering Cattle on Railroad Cars.*—Patent dated October 29, 1861.—This invention consists in placing at the top of the car a trough into which water is admitted from a pipe. The water passes down by tubes to the drinking trough, which is hinged to the side of the car, and can be turned up by a cord and windlass, to close it and keep out all impurities. The trough is made with movable sections in front of the doors. The roof is perforated so that the cattle can be showered with water from the trough at the top of the car.

Claim.—First, the combination of the troughs *a a* with the cords, pulleys *o o o o* and windlass W, or their equivalents, the whole operating in the manner and for the purpose substantially as described.

Second, forming the troughs *a a* with a movable section in front of the doors, so as to allow the cattle to pass out and in, and yet preserve the continuity of the trough.

Third, the perforated secondary roof, whereby the cattle and cars may be effectually showered with water, for the purpose set forth.

No. 33,606.—JOHN SELSER, of Williamsport, Pa.—*Improvement in Self-Opening Canal Bridges.*—Patent dated October 29, 1861.—This invention consists in the use of levers at or near the surface of the water, and connected to the bridge by chains, so that the action of the boat striking against the levers causes the bridge to be opened. The bridge is supported on four wheels, which run on a double track, each track being composed of four inclines, so that

the bridge will tend to close by the action of gravity. The boat is caused to sink a buoyant mass, which tends to close the bridge again as it rises after the passage of the boat.

Claim.—First, the employment of a lever or levers at or near the surface of the water, and connected with the bridge by means of chains, or their equivalents, whereby the bridge may be opened, or partially opened, by the action of the boat thereon, substantially as described, and the concussion due to the boat striking against the bridge avoided, as herein set forth.

Second, the arrangement of the double track, each composed of four inclines, as shown and described, for the purpose specified.

Third, causing the action of the boat to sink a buoyant mass, whereby the buoyancy of the said mass tends to close the bridge again after the passage of the boat, in either direction, substantially as described.

No. 33,607.—CHRISTIAN SHARPS, of Philadelphia, Pa.—*Improvement in Breech-Loading Fire-Arm.*—Patent dated October 29, 1861.—This invention consists in the use of a vertical sliding breech in combination with the rear of the barrel, the latter being recessed to receive the head of the metallic cartridge. Also, in a movable block arranged on the sliding breech, so as to form a medium of communication between the hammer and the metallic cartridge to discharge the latter. Also, in furnishing the bar (by means of which the spent cartridge is extracted) with an inclined notch, so arranged that when the cartridge is discharged a portion of the head will be caused to penetrate the notch by being struck by a projection on the movable block, and thereby so connected with the end of the bar that the extraction of the cartridge will be effected with certainty.

Claim.—First, the vertical sliding breech D, in combination with the rear of the barrel when the latter is recessed, for the reception of the head *x* of a metallic cartridge, substantially as set forth.

Second, the block F arranged on the sliding breech substantially as set forth, and forming a medium of communication between the hammer and the metallic cartridge, for the purpose of discharging the latter, as described.

Third, the inclined notch on the end of the projection *h* of the sliding bar H, the said notch being so arranged in respect to the head *x* of the metallic cartridge that when the latter is discharged a portion of the head will penetrate the notch as set forth, for the purpose specified.

No. 33,608.—SAMUEL SHOEMAKER, of Smithville, O.—*Improvement in Lifting Jacks.*—Patent dated October 29, 1861.—This invention consists in the employment of two curved rack-bars, the forward one of which passes through slots in the two standards, and has its upper end secured to the forward end of the lever; the other bar is pivoted at its lower end to the rear standard, while its upper end plays in a slot in the lever.

Claim.—The curved rack-bars D E, the lever F, and the standards B C, when the same are arranged and constructed as and for the purpose specified.

No. 33,609.—DRYDEN SMITH, of Biddeford, Maine.—*Improvement in Self-Adjusting Uterine Supporters.*—Patent dated October 29, 1861.—The object of this invention is to restore to a natural and healthy position various uterine displacements, such as prolapsus, or falling of the womb or bladder, &c.

Claim.—The adjustable bar H, set screw J, abdominal brace A A, in combination with tube *c*, the whole arranged in the manner and for the purpose as specified.

No. 33,610.—LUCIUS STEBBINS, of New York, N. Y.—*Improvement in Iron Pavements.*—Patent dated October 29, 1861.—This invention consists in the use of movable teeth or keys projecting through openings or slots in flat metal surfaces which form the pavement, the teeth being balanced by weights or springs, so as to yield to the pressure of a flat surface, but prevent the slipping of the horse's feet when not depressed. Also, in providing channels underneath the upper plate of the pavement to carry off the water or dirt which passes through the holes in said upper plate, the upper and lower plates of the pavement being so arranged that steam, water, or hot air can be introduced between them to melt off the snow or ice.

Claim.—First, the employment of movable teeth or keys *b*, projecting through slots or openings *d* in flat metal surfaces A which form the pavement, substantially in the manner and for the purpose shown and described.

Second, making the keys movable by means of weights, springs, or by any other desirable means, substantially as and for the purpose set forth.

Third, forming the pavement out of two plates A and E, each being ribbed, substantially in the manner specified, so that channels are provided to carry off the water and the dirt; or out of one plate provided with suitable ribs to form such channels, and so that steam, water, or hot air can be introduced under the pavement whenever it is desired.

No. 33,611.—WILLIAM MONT STORM, of New York, N. Y.—*Improvement in Skin Cartridges.*—Patent dated October 29, 1861.—The nature of this invention is explained by the claim.

Claim.—The application of the spiral fillet of gut adherent to it, in lieu of using thread, muslin, or other material of twisted fibres dissimilar in nature from the skin body of the cartridge, as heretofore essayed, and possessing the objectionable features explained, all substantially in the manner and for the objects given.

No. 33,612.—B. F. SWEET, of Fond du Lac, Wis.—*Improvement in Car-Coupling.*—Patent dated October 29, 1861.—This invention consists in making the front parts of the draw-heads which receive the link or shackle of cast-iron, and having the plates or bars fitted therein by dovetails, and secured by a shrunken wrought-iron band, by which means it is designed to obtain economy of construction and durability.

Claim.—Constructing the draw-heads of railroad cars by having wrought-iron plates or bars A A fitted by means of dovetail connexions in cast-iron bodies B, and secured therein by shrunken wrought-iron bands C, substantially as shown and described.

No. 33,613.—HENRY THIRION, of Mirecourt, France.—*Improved Blast Machine.*—Patent dated October 29, 1861.—The space surrounding the cylinders being filled to the required height with water or mercury, the air forced by the compressing cylinders enters the reservoir by suitable tubes, and the receptacle rises under the pressure of the compressed air according to the extent of the pressure. The supply and pressure being equal, it is impossible for the air to escape. As the column of water or mercury which intercepts its communication with the atmosphere is at least equal to the internal pressure, no friction takes place, the working being effected in water or mercury, and the expenditure of force is exactly what is necessary.

Claim.—The employment of the cylinder and apparatus described for blast purposes, in the manner and for the purposes set forth.

No. 33, 614.—JOHN A. THOMPSON, of Cayuga, N. Y.—*Improvement in Railroad Car Ventilators.*—Patent dated October 29, 1861.—This invention consists in the use of an outside box or casing, in which works a three-sided deflector guided in its motions by means of pins which traverse in grooved guides in the outside box.

Claim.—The combination of the box B, grooved as described, with the three-sided deflector A, the same being applied and operated in the manner set forth.

No. 33,615.—CHESTER VAN HORN, of Springfield, Mass.—*Improvement in Mode of Lowering Piers into the Water.*—Patent dated October 29, 1861.—In this apparatus the platform on which the pier is built is lowered by connecting the nuts of the several screw rods by mechanism, so arranged that all the nuts will be operated simultaneously from one and the same driving shaft, and consequently not only much labor saved in lowering the platform, but the horizontality of the same always preserved.

Claim.—The connecting of the several nuts D of the screw rods B to a common driving shaft J, substantially as shown, or in an equivalent way, when said screw rods and nuts are employed to sustain a platform C, for the purpose of lowering piers into the water during the course of construction.

No. 33,616.—MOSES N. WARD, of Old Town, Me.—*Improvement in Tobacco Pipes.*—Patent dated October 29, 1861.—This invention consists in providing the pipe with a cooling and condensing cylinder and air-chamber, and conducting the smoke through the same in its passage to the mouth of the smoker.

Claim.—The combination of the cylinder A, chamber B, and stem D, the whole constructed as described, and operating as set forth.

No. 33,617.—WILLIAM MEDD WATSON, of Tonica, Ill.—*Improvement in Grain-Separators.*—Patent dated October 29, 1861.—The object of this invention is to separate mixed grain, but more especially oats from wheat, which is accomplished by rolling a mixture of these two grains, in a layer of not more than one grain in thickness, over a plane surface, by the continuous motion of another parallel surface, such as an endless apron pressing against the grains, so as to cause them to roll or slide by friction, and thus carry them forward. The lowermost of these plane surfaces is perforated with numerous holes of a diameter about equal to three-quarters of the average length of the wheat grains to be divided from the oats, the holes being in such a position that several of them will be in the path of each wheat grain in crossing the plane, by which arrangement the wheat will all pass through the holes into a receptacle beneath, while the oats, being larger, will roll or slide over the holes to the end of the plane, and there be discharged into a heap by themselves.

Claim.—A machine composed of a pressure-carrier, a perforated surface, and a feeding mechanism for dividing mixed grain, and depositing the several kinds in separate places, substantially as described.

No. 33,618.—WM. MEDD WATSON, of Tonica, Ill.—*Improvement in Sieves and Screens of Winnowing Machines.*—Patent dated October 29, 1861.—This invention consists in making the series of metal bars, that extend across the screen, of tubular or crimped, or corrugated

thin sheet metal, instead of solid, round, or angular bars, in order to lessen the weight, and still preserve the strength.

Claim.—The combination of thin metal bars with a frame to form sieves and screens, substantially as described.

Also, the method described of cleansing grain, by passing it over a screen having deep grooves with wide tops and narrow slotted bottoms, substantially as described.

No. 33,619.—WILLIAM WEITLING, of New York, N. Y.—*Improvement in Sewing Machines.*—Patent dated October 29, 1861.—This invention consists in the use of a thread-carrier, carrying a thread down and up the opening of the button hole, while the needle, in stitching, carries one down and up through the cloth. Secondly, in an opening in the plate for the thread-carrier to pass. Thirdly, in a thread-holder revolving round an axle fixed in the clothes-presser, and provided below its base with a hook to take up the slackening of the thread above the plate, and to hold them in the form of loops under the needle. Fourthly, in a thread regulator, for alternately opening and shutting the opening in the plate for the passage of the thread-carrier, and also in a take-up tension for keeping the threads in a continual tension while running from spools, so as to take up any slackening not taken up by the thread-holder.

Claim.—First, the employment of a thread-carrier *a*, consisting of a sewing-machine needle having no point, and operating through the opening of the button hole, substantially as and for the purpose set forth.

Second, the arrangement for laying the upper loops with the hook *v*, by the revolution of the thread-holder *d*, substantially as and for the purpose described.

Third, the arrangement by which the opening *z* in the bed plate, provided for the passage of the thread-carriers, is alternately opened and shut by the employment of a thread regulator *e* and *f*, operating substantially as and for the purpose set forth.

Fourth, the arrangement of the take-up tension, consisting of a combination of hollow axles *h' h'* with rollers *h2 h2*, weights *k k*, cord *r2*, and double leader *j*, operating substantially in the manner and for the purpose specified.

Fifth, the arrangement of alternately checking and freeing the take-up tension by the employment of a tension regulator *l* and *m*, substantially as and for the purpose set forth.

No. 33,620.—ANDREW WHYTOCK, of London, England.—*Improved Manufacture of Metallic Sheathing.*—Patent dated October 29, 1861.—Patented in England October 11, 1859.—This invention consists in connecting together a series of sheets of metal by grooving, riveting, or otherwise, which are then immersed in a bath of melted metal, with which they are to be coated, by which means not only the general surfaces will be coated, but also the joints.

Claim.—The described new or improved article of manufacture, as made of two or more sheets of metal permanently united together and subsequently covered or coated with another metal, substantially in the manner set forth.

No. 33,621.—Cancelled.

No. 33,622.—GEO. W. GRISWOLD, of Abington, Pa., assignor to A. C. SISSON, of the same place.—*Improved Spring Bottom for Beds, Chairs, &c.*—Patent dated October 29, 1861.—This invention consists in the use of a series of bar or strip springs, one set of the ends of which is fastened to the frame, and the other set of ends is free to move out as any superincumbent weight comes upon them, but are restrained from rising too high when the weight is removed from them. The free ends of the springs always rest vertically upon their rod or support pressing thereon, so that, when they recoil or react, their bent or hooked ends will be sure to catch upon said rod or support.

Claim.—A spring bottom for chairs, carriage seats, sofas, lounges, beds, &c., made of a series of slat or strip springs, one end of which is fastened, and the other ends loose, said loose ends being restricted from leaving their support, substantially as and for the purpose described.

No. 33,623.—JONAS S. HEARTT and SAMUEL ENGLISH, of Troy, N. Y., assignors to JONAS S. HEARTT, JAMES OSTRANDER, of Troy, N. Y., and JOSEPH RIDGWAY, of South Amboy, N. J.—*Improved Machine for Making Fire-Clay Gas Retorts.*—Patent dated October 29, 1861.—The end plate of the fixed core is separable from the hollow core, and is secured thereto during the formation of the ends of the retort by means of a screw-rod extended through the machine to its outside, so that a person attending the machine can thereby release the plate from the core. Between the core and the greater part of its end plate is a space which communicates, by means of a passage, with the open air, or with a condensing pump, so that when the core is raised, leaving the end plate at the bottom, the atmospheric pressure on the inner and outer surface of the retort during its formation will be so nearly equal that it will not collapse or be crushed inward by the atmospheric pressure, while the body of the retort increases in length, and consequently tends to produce a shell which slides longitudinally on its body by means of a screw-rod extended through the machine to the outside.

The plastic material is forced in between the outer die and the core, by means of a feed-screw working in a cylinder.

Claim.—First, the removable plate *e*, when secured to and released from the end of the hollow core B, having a communication with a supply of atmospheric air or other fluid, as and for the purpose set forth.

Second, the sliding core shell *k*, when applied so that the core can be thereby made to terminate either within or beyond the end of the outside die A, as described.

Third, the combination of the condensing air-pump P, or any equivalent therefor, with the outer die A, mould M, and support F, core B, extended opposite to the recess *n* in the mould, and a device for forcing the plastic material between the said core and die into the mould, substantially as and for the purpose set forth.

No. 33,624.—CHARLES MAHAN. SEN., of Jamestown, O., assignor to Himself and ALFRED JOHNSON, of the same place.—*Improved Clod Crusher.*—Patent dated October 29, 1861.—Hinged to the forward part of an ordinary drag is a frame. to the middle and rear end of which are secured rows of teeth which are allowed to project through openings in the floor of the drag. The harrow frame is kept depressed or raised by means of a lever pivoted to the frame at its centre.

Claim.—The arrangement of drag A, harrow B C D E, lever G *g*, apertures F, and catches *g'* and H, or equivalent devices, for simultaneous division and pulverization of the clods, or for momentary suspension of the harrow action, substantially as described.

No. 33,625.—G. F. SCHAFFER, of New York, N. Y., assignor to Himself. AUGUST SCHMIDT, and JAMES T. STEER, of the same place.—*Improvement in Machinery for Dressing Flax or Hemp.*—Patent dated October 29, 1861.—This invention consists in the employment of a cylinder carrying rollers, in connexion with a belt also carrying rollers in such a manner that the flax or other material to be cleaned of the tow and woody material, is acted upon by the rollers, and the refuse matter loosened from the fibre and the fibres themselves separated and cleansed. To the belts are also attached hatchels for combing out and removing the tow and foreign matter. In connexion with the above are used two feed rollers, one of which is grooved so as to crack the woody part, and the other is made of rubber or other elastic material for the purpose of holding the mass more firmly and preventing the hatchels from drawing it into the machine.

Claim.—The cylinder *c*, provided with the rollers *d*, in combination with the rollers *h* on the belts *g*, as and for the purposes specified.

Also, the hatchels *e* on the cylinder *c*, in combination with the rollers *h* on the belts *g*, or with the hatchels *i* on the said belt *g*, or both, as and for the purposes set forth.

Also, the feed rollers *k* and *l*, one of which is grooved and the other rendered elastic by a covering of rubber or similar material, in combination with the said cylinder *c* and belt *g*, provided with the rollers and hatchels, as set forth.

No. 33,626.—EDGAR D. SEELY, of Brookline, Mass., assignor to Himself, GEORGE A. PHILLIPS, of Dorchester, and THOMAS F. WELLS, of Roxbury, Mass.—*Improvement in Gun-Cappers.*—Patent dated October 29, 1861.—This invention consists of a metallic tube in which is fitted to slide a cap receptacle, which has one end filled with a piece through which an eye-bolt screw passes into the end of the cap-receiver. At the other end the cap-receiver projects beyond the end of the case, and its sides are formed into spring nippers to retain and deliver each cap. In the end of the follower nearest the eye-bolt screw is fixed a spring of rubber or elastic cord, which passes over a stop or pulley connected to the receiver near its nipper end, and from thence it passes along the length of the receiver to the other end. By means of a guide the implement may be used to cap the gun, the fingers being guided by the touch, without the necessity of using the eye.

Claim.—First, constructing a gun-capper substantially in the form described, whereby it is made more convenient in use and more universally applicable than the disc shape used heretofore.

Second, constructing the cap-receiver separate and removable from the outer casing, and with its projecting end formed into spring nippers, substantially as and for the purpose specified.

Third, the arrangement of the spring *n*, operating substantially as shown and described, when combined with the follower and cap-receiver, so as to be removable with them from the case.

Fourth, the guide to the delivery end of the instrument.

No. 33,627.—ANCIL STICKNEY, of Concord, N. H., assignor to Himself and WILLIAM H. HOVEY, of Springfield, Mass.—*Improvement in Corn-Shellers.*—Patent dated October 29, 1861.—This invention consists in the use of an inclined box or trough in connexion with a revolving toothed disc, the front of the inclined trough being closed by a movable pressure plate which is held in place by a spiral spring and nuts and screws. The ear of corn is taken up against the top of the inclined box by the revolving disc, and a rotary motion is imparted

to it in one direction during its passage through half the length of the box, and is then carried against the lower side of the box and revolved in the contrary direction during its passage through the remainder of the box, the inside of the pressure plate being furnished with ridges arranged to operate like the thread of a female screw, so as to quicken the passage of the ear of corn through the box.

Claim.—First, the combination of the box or trough C and pressure plate F with the shell A and rotary toothed disc D, when the several parts are constructed and arranged as and for the purposes specified.

Second, the arrangement of the ridges *m m m* on the interior surface of the pressure plate F, whereby they operate as a right and left screw, substantially as and for the purposes specified.

No. 33,628.—BENJAMIN ANDREWS, of Philadelphia, Pa.—*Improvement in Army Trunks.*—Patent dated November 5, 1861.—This invention consists in adapting a mattress and suitable frame or platform therefor so as to be enclosed together within a common trunk, leaving the main portion of the interior of the trunk unobstructed, the mattress and platform being capable of being extended upon the opened trunk or upon the legs of the platform.

Claim.—The folding platform B, in combination with the mattress A, tray D, and drop leg *f*, the same being constructed and arranged to operate together in combination with a trunk, whether closed or opened, substantially in the manner described and set forth and for the purpose specified.

Also, in combination with the said platform B, mattress A, tray D, and drop leg *f*, constructed and arranged to operate as described, the legs *h h* attached thereto, so as to operate in the manner described and set forth and for the purpose specified.

No. 33,629.—JOHN P. AVERY, of Norwich, Conn.—*Improvement in Trusses for Bridges.*—Patent dated November 5, 1861.—This invention is explained by the claim and engraving.

Claim.—The combination of two sets of braces standing upon two base chords and terminating at the top in one chord forming a truss. Also, the combination of two or more trusses thus formed by making one set of braces in each truss unite or stand on the same base chord, the whole being constructed substantially as described and for the purposes set forth.

No. 33,630.—H. W. BALL, of New York, N. Y.—*Improved Cook Stove and Camp Chest Combined.*—Patent dated November 5, 1861.—This invention is explained by the claim and engraving.

Claim.—A cook stove C and boiler D, when constructed and arranged to fit one within the other, and to contain the necessary culinary vessels, dishes, &c., when said stove is used in connexion with a camp chest A and combined therewith, substantially as and for the purpose set forth.

No. 33,631.—C. H. BALLARD, of Worcester, Mass.—*Improvement in Breech Loading Fire-Arms.*—Patent dated November 5, 1861.—This invention consists in a novel construction of, and mode of applying, a movable breech for breech-loading; also in the arrangement of all the parts of the lock of a breech-loading fire-arm within a slot in the movable breech; also in a means of bringing the lock to a half cock by the act of opening the breech; and in a certain means whereby the cartridge-drawing device, after having drawn the cartridge, is returned to a recess within the barrel out of the way of the movable breech and lock, by the force of the main spring of the lock acting through the hammer.

Claim.—First, the breech B, composed of a long block with shoulders *a b* fitted to corresponding shoulders *e f*, within the breech supporter A, and arranged in combination with a lever D to move upward and downward as well as longitudinally, within a parallel-sided cavity in the said supporter under the control of guides *d d* above and below its rear portion, all substantially as specified.

Second, the arrangement of all the parts of the lock of breech-loading rifle or other small arm within a slot in the movable breech, substantially as specified.

Third, the link E, having a protuberance *e*, applied in combination with the lever D, the breech, and the hammer, for the purpose of bringing the hammer to half cock by the act of opening the breech, substantially as specified.

Fourth, combining the lever F with the hammer H, by means of a horn *n*, or its equivalent, substantially as and for the purpose specified.

No. 33,632.—F. H. BARTHOLOMEW, of New York, N. Y.—*Improved Water Closet.*—Patent dated November 5, 1861.—The hopper, trap, trap screen, and floor flanch are so arranged that the trap may be secured to the floor and made to serve the double function of a trap and a stand or support for the hopper. The wooden seat is attached to the hopper in such a way that no other support will be required, thus obviating the necessity of extraneous fixtures.

Claim.—First, the combination of the trap A, hopper B, opening *h*, provided with the cap or lid *j*, and the flanches *e f*, either or both at the lower part of the trap, all being arranged substantially as and for the purpose set forth.

Second, the flanch C for the attaching of the seat E directly to the hopper B, when said hopper is attached to a trap A, which serves the twofold purpose of a trap and stand or support, as set forth.

Third, constructing or casting the trap A in the form substantially as shown and described, to wit, having it so curved that a screen or partition *d* will project forward in front of the lower or discharge end of the hopper B, for the purpose of concealing the contents of the trap, as described.

No. 33,633.—J. D. BOEDICKER, of New York, N. Y.—*Improved Piano-Forte Action.*—Patent dated November 5, 1861.—This invention consists in the employment of a combination of levers applied to and connected with the hammer-shank, and arranged in such a manner as to act together with the jack so as to move and arrest the same within a short distance from the string to allow the jack to operate the same, so as to produce a repetition of blows by a very slight rise of the end of the key.

Claim.—First, the arrangement of the levers *n* and *m* in combination with the hammer shank I, and acted upon by the jack B, in the manner and for the purpose substantially as described.

Second, the use of the spring S, between the end of the lever *n* and the hammer-shank I, operating the levers *n* and *m*, and in combination with the jack B, the hammer H, in the manner and for the purpose substantially as set forth.

Third, the screw *v*, or its equivalent, acting upon the levers *m* and *n*, substantially as specified.

No. 33,634.—JOHN BRUCKSHAW, of Oakley, HENRY BRUCKSHAW, of Market Drayton, and WM. S. UNDERHILL, of Newport, England.—*Improvement in Machines for Elevating Grain.*—Patent dated November 5, 1861.—This invention consists in elevating grain through a tube by means of a blast of air from a fan.

Claim.—The elevating or raising grain from one level to another by means of a blast and fan, as more fully set forth and specified.

No. 33,635.—E. B. BUTTERFIELD, of New York, N. Y.—*Improvement in Breech-Loading Ordnance*—Patent dated November 5, 1861.—This invention is explained by the claim.

Claim.—Combining with the breech of a breech-loading cannon a movable breech-pin and a movable breech-piece, the breech-pin being arranged and constructed so as to screw into the breech at the end of the bore or chamber, and the breech-piece having a socket in which is a screw corresponding with and forming a continuation of the screw in the bore or chamber, substantially as and for the purposes described.

No. 33,636.—A. H. DIXSON, of San Francisco, Cal.—*Improvement in Grain Separators.*—Patent dated November 5, 1861.—The chutes are placed under the screens and incline in a reverse direction to them. The outer end of each screen is connected to the end of the chute by a strip of leather which closes the space between the chutes and screens at that point. The screens are pivoted at their inner ends so as to be easily adjustable as to inclination. Just below the outer end of each screen is a sheet metal slide which may be drawn out, and thus, in effect, lengthen the screen, for the purpose of adapting the machine to the condition and quality of the grain.

Claim.—First, the employment or use of a series of adjustable screens *e* and stationary chutes *f*, placed in a vibrating or reciprocating box D, connected at their outer ends by strips *g*, of leather or other suitable material, and placed relatively with the fan-box C, to operate as and for the purpose set forth.

Second, the employment or use of the slides G, placed between the screens *e* at their outer ends, substantially as and for the purpose set forth.

No. 33,637.—LEWIS DUNGAN, of Philadelphia, Pa.—*Improvement in Apparatus for Preserving and Discharging Malt Liquors.*—Patent dated November 5, 1861.—This invention is designed as an improvement on the patent granted to M. Reeder, January 24, 1860, and consists of a tube with a detachable air-tight cap secured to the piston, and operating in such a manner as to prevent the lodgment of air in the space beneath the piston, and preserve the freshness of the liquor.

Claim.—The tube M with its detachable air-tight cap N, when combined with the piston D, of the described apparatus for preserving and discharging malt liquors, substantially in the manner and for the purpose specified.

No. 33,638.—H. G. EASTMAN, of Poughkeepsie, N. Y.—*Improved Penman's Assistant.*—Patent dated November 5, 1861.—This invention consists in forming a hand and finger rest or support for the pupil learning to write, by means of a ball fitting the palm of the hand when closed in the act of writing, and having attached thereto, in suitable positions, thimbles or fingers for the support of the middle, fourth, and little fingers, so that the pen, when held between the thumb and forefinger, will rest against the end of the middle finger in an easy and natural position for forming the letters.

Claim.—The use of a spherical or other shaped instrument having finger rests or supports attached thereto, substantially as described, for supporting the hand and fingers for the purpose set forth.

No. 33,639.—J. FARGUSSON, of Dubuque, Iowa.—*Improvement in Grain Separators.*—Patent dated November 5, 1861.—The riddles are of a hollow rhomboidal shape, transversely, having the central angular part of their top perforated plates closed along their whole length; and the central angular part of their lower imperforated plate open along their whole length. The frame is suspended on springs which allow a longitudinal movement of the frame and riddles together. On one end of the frame is fastened a slotted bracket, in which an eccentric revolves, and gives the frame a reciprocating, longitudinal motion. The hopper is made without a bottom, and is supported at its ends by a slotted bracket and set screws, so as to be adjusted nearer to or further from the upper riddle for regulating the feed-pins projecting from the upper riddle into the open bottom of the hopper, prevent the latter from choking.

Claim.—The wheat riddles D, constructed and operating in the manner substantially as described, for the purpose set forth.

Second, the combination of the wheat riddles D, pins *j*, and bottomless hopper E, substantially as and for the purpose described.

Third, the combination of the wheat riddles D, springs G, and eccentric *f*, substantially in the manner and for the purposes described.

Fourth, the combination of the wheat-riddles D and the cockle riddle I, substantially in the manner and for the purpose described.

Fifth, the combination of the wheat riddles D and fan B, substantially as and for the purpose described.

Sixth, the adjustability of the hopper E, relatively to the upper riddle D, substantially in the manner and for the purpose described.

No. 33,640.—D. K. FISHEL, of Lancaster, Ohio.—*Improvement in Weather Strips and Fasteners for Doors.*—Patent dated November 5, 1861.—This invention consists in making a part of the threshold or the carpet strip at the door to slide, it being so arranged as to yield as the weather strip is pushed down between the stationary and sliding parts of the threshold, and close the crack at the bottom of the door.

Claim.—The sliding threshold or carpet strip for the purposes set forth, substantially as described.

Also, in combination with the sliding threshold, the weather strip and door-fastener described.

No. 33,641.—HENRY FRANCISCO, of White Water, Wis.—*Improved Spring Tooth for Cultivators.*—Patent dated November 5, 1861.—This invention consists in so constructing the shoulder of a cultivator tooth between the point where the upper main portion or standard of the tooth comes in contact with the beam and the point at which the bolts pass through the shoulder to secure the tooth to the beam, that, between said points, there shall be a sufficient spring or elasticity to the shoulder to compensate for any unusual strain upon the tooth.

Claim.—A spring cultivator tooth constructed and operating substantially in the manner and for the purpose described, in combination with a check brace, substantially as described.

Second, so constructing the shoulder of a cultivator tooth that, when the working point of the tooth is arrested by any sudden obstruction, the strain upon the tooth will be relieved by the action of the shoulder, substantially as described.

No. 33,642.—THOMAS GATES, of Worcester, Mass.—*Improved Refrigerator.*—Patent dated November 5, 1861.—Secured to the base of the chest is a circular railway, upon which is placed a table provided with wheels, which admit of the table being revolved so that butter placed upon the table may be removed in small portions through the door. The ice case is made to rest upon the base, so as to be readily removed when necessary for the reception of a firkin of butter.

Claim.—The refrigerator, as described, consisting of the ice-case, chamber, and base, with its movable table, when constructd in the manner and for the purpose set forth and described

No. 33,643.—D. S. HAMILTON, of Elmira, N. Y.—*Improvement in Rotary Pumps.*—Patent dated November 5, 1861.—The central cylinder which closes the interior of the annular piston-space, and also the outer cylinder, are made stationary, the piston being attached to the cap which revolves with the driving-shaft. Immediately between the induction and eduction pipe or chamber is arranged a "butment" which is hinged to one edge of the eduction aperture, the opposite side resting upon the edge of the induction aperture, the "butment" opening to let the piston pass.

Claim.—The combination of the annular piston space E, having both annular sides fixed, with the butment G bearing on one of the said fixed annular sides, substantially as and for the purpose set forth.

Also, the combined arrangement of the butment G and induction and eduction apertures J

and D, so that the said aperture shall be nearly or quite radially opposite to each other, and the butment shall close diagonally between the two and open into the eduction aperture, for the purpose specified.

Also, inclining the closed butment and approaching piston towards each other so that the piston shall open the butment in the direction contrary to that of its own motion, substantially as and for the purpose specified.

No. 33,644.—J. W. HARDIE, of New York, N. Y.—*Improvement in Army Trunks.*—Patent dated November 5, 1861.—This invention consists in so constructing a trunk as to render it capable of being readily transformed into an easy chair, a bed and bedstead, a lounge and writing desk, a settee or a table.

Claim.—First, the construction of the trunk as described, with the upper section of less depth than the lower when hinged at the end, as set forth, and provided with sockets, or their equivalent, and in combination therewith the U-shaped irons, for the purposes and substantially as set forth.

Second, the table hinged so as to fold, and provided with ears or hooks as specified, for the purposes described.

Third, the combination of the frame, U-shaped iron and top of the trunk, when the said frame is hinged to the trunk top and supported by the iron, for the purpose of forming a high-backed chair in connexion with the body of the trunk, in the manner specified.

Fourth, the double frame or frames E F, having two sets of braces, G G and Z Z, for the several purposes set forth, arranged and combined with the trunk substantially as described.

Fifth, the frame D, hung near the main hinges, so as to swing up and permit the folding out of the double frame E F, as set forth.

No. 33,645.—D. A. HAVILAND and A. S. PHILLIPS, of Fort Dodge, Iowa.—*Improvement in Apparatus in Handling Hides in Tanning.*—Patent dated November 5, 1861.—At each end of a vat are placed standards provided with grooves in which are fitted cross-heads, the latter being suspended by ropes to axles journaled in each end of the vat. Resting upon these cross-heads are a series of bars provided with hooks, to which the skins are attached. By means of a windlass the skins are lowered into and raised from the vat.

Claim.—The arrangement of the windlass axles D D′, cranks F F′, movable bars E, and standards B B′, with the vat A, the whole combined and operating in the manner and for the purpose described.

No. 33,646.—W. S. HENSON, of Newark, N. J.—*Improvement in Breech-Loading Ordnance.*—Patent dated November 5, 1861.—The barrel of the gun is stationary and mounted on a platform, the breech-piece recoiling a short distance as the gun is fired. The breech is not fastened to the barrel, but is made of such weight as to resist the shock of the explosion almost entirely by its inertia. One or more vent holes may be made in the barrel instead of a vent in the breech for firing the charge simultaneously at two places, so as to secure a more rapid combustion of the powder.

Claim.—The independent recoiling breech, together with the non-recoiling barrel and double vents, made and operated as described.

No. 33,647.—B. J. HILDRETH, of Philadelphia, Pa.—*Improved Sash-Supporter.*—Patent dated November 5, 1861.—This invention consists of a device by which the sashes are kept pressed outward against the jamb and thereby made to form a tight joint, and by friction sustain the sashes in the frame at any desired height, the device being more especially designed for cars and other vehicles.

Claim.—The T-shaped shoe *c* and spring *d*, with the cavity *b* and groove *a*, when combined, arranged and operating in the manner and for the purpose described.

No. 33,648.—A. H. JONES, of Falsington, Pa.—*Improvement in Corn-Shellers.*—Patent dated November 5, 1861.—The weighted arm is so arranged in relation to the plate and stripper-wheel as to force the cob against them with an equal pressure throughout its length, and thereby remove the kernels from the point as effectually as from the other parts of the cob.

Claim.—The weighted arm L, arranged in respect to the plate-wheel G and stripper-wheel K, as and for the purpose set forth.

No. 33,649.—AUGUST KAESTNER, of New York, N. Y.—*Improvement in Lamps.*—Patent dated November 5, 1861.—This lamp is designed to burn coal oil without a glass chimney. The tube is provided with large perforations below so that the air can be heated as it passes to the flame, and with small perforations above for the admission of small jets of air to the base of the flame.

Claim.—The combination of the tube B, taper slot *c*, large perforations *d*, and horizontal ranges of small perforations, all constructed and arranged in relation to each other and to the wick tube *e*, in the manner and for the purpose explained.

No. 33,650.—O. W. KELLOGG, of Ripon, Wis.—*Improvement in Road-Scrapers.*—Patent dated November 5, 1861.—To the back board of the scraper is attached the draught-pole in front and two handles at the rear, and is so secured by joints to the bottom board as to admit of its being easily tilted when the dirt is to be discharged.

Claim.—The bottom board E, provided with a share or shod portion *a*, and having side pieces D D attached, in connexion with the back board A, having the draught-pole B, and handles C C, attached to it, and connected to the back edge of the bottom board E by hinges or joints *a'*, all being arranged and combined substantially as and for the purpose set forth.

No. 33,651.—COLOMANNUS KOLLINSKY, JACOB EHRLICK and ALBERT J. DE ZEYK, of Washington, D. C.—*Improvement in Military Fatigue Caps.*—Patent dated November 5, 1861.—The flaps are so arranged in relation to and united with the side pieces of the cap as to admit of being turned up or down in front, or they may be placed at the sides of the head so as to be adapted to be worn in any kind of weather.

Claim.—Providing a cap composed of two side pieces and a top gusset, with flaps arranged in relation to and united with the said side pieces substantially as herein described, so as to operate in the manner and for the purposes set forth.

No. 33,652.—CHARLES LE DUE, of Boston, Mass.—*Improvement in Safe Locks.*—Patent dated November 5, 1861.—This invention consists in the construction and arrangement of two slides operating parallelly, in connexion with the bolts. The slides are provided with flanged ends, and are operated by loose pins at one end, which pins are operated by the key.

Claim.—The construction, arrangement, and combination of the bolts E and slides G with their flanged and inclined plane ends to be operated by the pins J, substantially as described.

No. 33,653.—JOSIAH LEES, of Birmingham, England.—*Improvement in Swivel Hooks and Rings.*—Patented in England May 19, 1860.—Patent dated November 5, 1861.—The hook or ring is formed either wholly or partially of tubular metal, or of solid metal with a chamber at one end to receive a spring and metal bolt. A portion of the circle is omitted to form an opening, which is filled up by the bolt being forced against the other end of the ring by the coiled spring.

Claim.—In the manufacture of swivel hooks and rings for attaching and securing watch-chains, ear-rings, key-rings, and other similar articles of jewelry; the so combining of a spring-bolt with the article of jewelry as that said bolt when shot out shall form a part of the rim or boundary of said hook or ring, and thus close the space through or by which the article of jewelry is secured to any other thing, and thus avoid the use of a hinge of any kind, substantially as represented.

No. 33,654.—A. H. LORTON, of New York, N. Y.—*Improved Potato-Masher.*—Patent dated November 5, 1861.—This invention consists of a perforated disc attached to a handle, and is designed for mashing or crushing potatoes, turnips, and other vegetables when cooked.

Claim.—The perforated pulverizer or potato-masher, constructed substantially as described, as a new article of manufacture.

No. 33,655.—S. W. MARSH, of Washington, D. C.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated November 5, 1861.—This invention consists of a number of devices, which do not admit of a brief description.

Claim.—First, the construction of a gun-barrel, or part of a gun-barrel, having a hinge joint, as shown at I, upon the fixed breech-connexion D D D' D' D2 D3 D4 D5, Figs. 1, 26, with the channel F F, Figs. 1, 26, and cavities F' F', Fig. 1, and the cavities F' F' F2 F2, Fig. 26, within the fixed breech-connexion, substantially as described and set forth.

Second, the peculiar construction of the gates H, formed with the cavities J K K' L M, Figs. 1, 4, 8, 13, 22, 24, and of the gates H, hinged at I, formed with the cavities J K2 K3 M, Figs. 26, 28, and operating substantially as shown at Figs. 1, 2, 3, 26, as described and set forth.

Third, the adjustable plungers O, whether made solid, as represented in Fig. 7, or perforated longitudinally for the introduction of a needle, as shown in Figs. 1, 2, 3, and 6, and their equivalents, Figs. 5, 9, 15, 19, 23, 27, and 29, constructed and operated substantially as specified.

Fourth, the bolts represented in Figs. 15, 16, and 30, constructed and operating substantially as set forth.

Fifth, the spring U, Figs. 1, 2, 3, and 26, constructed, arranged, and operating substantially as specified.

Sixth, the peculiar or equivalent form of needle-head R R', as represented in Figs. 10, 17, and 21, constructed and operating as and for the purpose described.

Seventh, the peculiarly formed trigger V, Figs. 1, 2, and 3, constructed, arranged, and operating as set forth.

Eighth, the combination of the nut P, or its equivalent screw L', with the plungers O, for the purpose set forth.

Ninth, in combination with the fixed breech-connexion, the springs T, Figs. 1, 2, and 3, and T2, Fig. 26, constructed, arranged, and operating as and for the purpose described.

Tenth, the screw or pin *d*, or its equivalent, in combination with the trigger V and bolts, Figs. 16 and 30, constructed, arranged, and operating as described.

Eleventh, the combination in a fire-arm of a perforated plunger with a needle, substantially in the manner and for the purpose described.

No. 33,656.—C. H. McCORMICK, of Chicago, Ill.—*Improvement in the Cutting Apparatus of Mowing and Reaping Machines.*—Patent dated November 5, 1861.—The object of this invention is to diminish the width and thickness of the cutter without impairing its efficiency. The front margin of the top of the finger-beam is made the guide for the cutter, so that it may be firmly supported throughout its whole length, and upon this guide the cutter-bar is arranged to slide, the blade being riveted to the top of the bar. The guide, cutter-bar, and blade are so arranged that the blade will droop enough to bring its edge down to or below the level of the top of the guide on the finger-beam.

Claim.—The combination of the drooping blade and its bar with the supporting guide for the bar on the front margin of the finger-beam, all constructed and arranged substantially as described.

No. 33,657.—C. H. McCORMICK, of Chicago, Ill.—*Improvement in Metallic Finger-Beams of Reaping and Mowing Machines.*—Patent dated November 5, 1861.—The finger-beam is formed with a broad under surface to prevent it from sinking too much into the ground, and with a narrow upper surface sloping towards the front as a seat for the fingers, and to allow cut grass to fall over it to the ground, while the requisite vertical stiffness is obtained by giving it additional thickness in the line of the rivet-holes.

Claim.—The finger-beam, constructed as set forth.

No. 33,658.—C. H. McCORMICK, of Chicago, Ill.—*Improvement in Reaping and Mowing Machines.*—Patent dated November 5, 1861.—The nature of this invention will be understood from the claim.

Claim.—The combination in a mowing machine, balanced or nearly so upon its main driving-wheel, of a driver's seat arranged over the driving-wheel, a leaning bar or bars on the side or sides of the driver's seat, and a jointed tongue, so arranged that by a forward and lateral movement or a backward and lateral movement of his body the driver can correspondingly turn the machine upon the driving-wheel as a fulcrum, substantially as described.

No. 33,659.—S. W. MUDGE, of Rome, N. Y.—*Improved Churn.*—Patent dated November 5, 1861.—On the shaft just below the lid is keyed a circular beater-plate provided with a series of concentric, step-like projections. Above this plate, and corresponding inversely with it, is a similar plate, and both are arranged upon the shaft, which is so geared as to rotate the plates in reverse directions. The lower end of the shaft is provided with arms, which serve as gatherers, and upright ribs are attached to the inner sides of the tub to assist the gathering operation.

Claim.—The plates D and E, dasher F, and ribs J J, when all shall be constructed, arranged, and operated in the manner and for the purpose specified.

No. 33,660.—WILLIAM PAGE, of New York, N. Y.—*Improvement in Rifled Projectile for Ordnance, &c.*—Patent dated November 5, 1861.—This invention consists in attaching to the muzzle of a smooth-bored gun one or more internal projections, to be used in connexion with a projectile having one or more grooves on its surface, for the purpose of giving the latter a rotary motion when discharged.

Claim.—The combination and use of both pins and spiral groove, as described, by which the rotation of the projectile on its axis is secured in its passage throughout the smooth bore of the gun.

No. 33,661.—P. P. PARKHURST, of Milford, Mass.—*Improved Washing Machine.*—Patent dated November 5, 1861.—The slats are attached to two circular heads and arranged in two circles, each slat being made square, and placed so that its diagonal shall be on the radial line of the circular heads.

Claim.—The cylinder formed with two concentric series of alternating slats *h h* and *i i*, as and for the purposes specified.

No. 33,662.—R. P. PARROTT, of Cold Spring, N. Y.—*Improvement in Applying Fuzes to Shells.*—Patent dated November 5, 1861.—The object of this invention is to make the fuze serve either as a time fuze or a percussion fuze, as may be desired, and the invention consists in providing in the metal of the projectile, on each side of the fuze-hole, a hole for the reception of the fuze, intersecting or meeting the first-named hole in a transverse section. In connexion with this transverse hole for the reception of the fuze is employed, to effect the explosion of the projectile by percussion, a movable plug or plunger or other piece of metal, suitably applied, to break the fuze when the projectile strikes, so that the fire from the fuze which is ignited by the fire of the charge of the gun may communicate with the charge of the projectile.

Claim.—The combination with an aperture leading to the interior of the shell of a transverse hole or passage D for the reception of the fuze, substantially as described.

Also, the combination with the transversely-inserted fuze of a plunger C, applied and operating substantially as and for the purpose specified.

No. 33,663.—A. R. REESE, WILLIAM GOULD and NELSON LAKE, of Phillipsburg, N. J.—*Improvement in Rakes for Harvesters.*—Patent dated November 5, 1861.—This invention consists in arranging the gearing of the revolving combined self-raker and reel within an independent frame, so that it may be readily removed and converted into a mower. The ring to which the frame is attached is braced to a cross piece, which latter serves as a bearing for the vertical shaft.

Claim.—First, the combination of the rake *c*, the blank heads D D, operating as described, and an endless chain N N, with the removable frame F F, the whole being arranged and operating in the manner and for the purpose described.

Second, the combination of cross pieces H, and the braces I I, with the removable frame F F, for the purpose of strengthening and supporting the ring G G, substantially as described.

No. 33,664.—T. R. RICHMOND, of Massillon, O.—*Improvement in Seeding Machines.*—Patent dated November 5, 1861.—This invention consists in an arrangement of devices by which the seed is dropped into the ground, their discharge regulated, and when desirable, entirely cut off, and at the same time the tubes and teeth raised from the ground.

Claim.—The arrangement of the slotted cam M, pivot *k*, and adjustable frame N, with the lever *i j*, rod L, slide *k*, straps O, tubes P, arms Q, and tubes S, all as shown and described.

No. 33,665.—J. R. ROWAND, of Philadelphia, Pa.—*Improved Mode of Diminishing the Effect of Collision on Railways.*—Patent dated November 5, 1861.—This invention consists in providing a railway car with any suitable number of frames arranged to slide into each other, and forming chambers which are filled with small blocks of friable material resting on a grating, so that when the cars come in violent contact with each other the slides will yield, and the shock and crush be absorbed by the friable blocks. A strap furnished with a coupling screw may be passed around the chambers, so as to be drawn tightly and impart more or less friction to the sliding frames.

Claim.—First, the employment, in connexion with railway cars, of any convenient number of frames C, D and E, arranged to slide into each other, and forming chambers containing blocks of friable material, in combination with the grating G, or its equivalents, for the purpose specified.

Second, the adjustable strap H, applied to the sliding frame, substantially in the manner and for the purpose set forth.

No. 33,666.—WILLIAM SHAW, of Hudson, N. Y.—*Improved Mode of Supporting and Locking Window Sashes.*—Patent dated November 5, 1861.—The case or box which encloses the several parts of the lock has a slot in its upper side cover in which the locking end of the key slides. The spring which keeps the pinion against the rack is fastened in one corner of the case, and operates on the side of the pinion opposite the rack.

Claim.—Employing the spring key *c*, in combination with the pinion A and spring *b*, when the guard or stop *s* operates on the side of the pinion opposite to the rack B, substantially as and for the purpose set forth.

Also, constructing the case or box *g*, substantially in the manner and for the purpose set forth.

No. 33,667.—CYRUS W. STROUT, of Calais, Me.—*Improvement in Machines for Dovetailing Window Sashes.*—Patent dated November 5, 1861.—The table upon which the stuff to be mortised is placed is provided on its under side with two transverse bars, through which a shaft passes, upon which the table has a rocking motion. The carriage has a forked head at its front end and laterally projecting arms at its rear end, by means of which a lateral movement is imparted to the carriage and table. By means of a screw passing up through the rear end of the frame, the rear end of the table can be elevated so as to cut both sides of the mortise of the same length. The table is retained in a level or inclined position by adjustable stops. A series of adjustable right and left hand cutters are attached to one side of the head so as to project more or less beyond its periphery. A gauge-rest is so arranged as to admit of the gauge being adjusted to and from the cutters, and the lateral movement of the gauge is governed by means of an arm in connexion with a pin and catch.

Claim.—First, the rocking table H, carriage I, screw *d*, adjustable stops *n n*, and screw *f*, when combined, arranged, and operating in the manner and for the purpose described.

Second, the arrangement of the gauge-rest J, provided with an arm N, with the slide *j*, and connecting link *i*, at one end, and the slotted segment plate *l l*, at the other, in connexion with the pin K and adjustable catch L, combined and operating in the manner described.

Third, the revolving cutters *a a*, with table H and gauge-rest J, when combined, arranged, and operating in the manner and for the purpose described.

No. 33,668.—HENRY R. TERRY, of Edenboro', Pa.—*Improvement in Beehives.*—Patent dated November 5, 1861.—The hive is constructed in horizontal sections, each section being separated from the other by a series of slats near their upper surfaces and a like series at their lower surfaces, so that a free passage is allowed the working bees between the slats and the building of the comb in these spaces precluded.

Claim.—The depression of the horizontal slats on the top of the sections, whereby a lateral passage is formed for the bees through the section of comb.

No. 33,669.—H. F. THIEMEYER, of Baltimore, Md.—*Improved Railroad Switch.*—Patent dated November 5, 1861.—The switch is provided with a series of recesses accompanied by a series of lugs or steps for the purpose of allowing the dirt to escape and preventing the tongue from being sprung. The tip of the tongue is fastened by means of a bar inserted under a lip and the rail.

Claim.—First, the use of the recesses *b*, and the lugs or stops *c*, in the bed-plate or casting B, substantially in the manner and for the purposes set forth.

Second, the mode of fastening the tip of the tongue to the bed-plate by the bar H, sliding under the rail I, and the lip G, substantially as described.

No. 33,670.—H. F. THIEMEYER, of Baltimore, Md.—*Improvement in Railroad Crossings.*—Patent dated November 5, 1861.—The bed-plates, which are cast with the rails, are provided with recesses to prevent the dirt from obstructing the motion of the tongues, which are connected at one end to the bed-plates by bolts. Four tongues are connected and operated by means of rods and levers, so that one set of tongues can be closed simultaneously with the opening of the other set.

Claim.—First, the use of the bed-plates B, provided with the recesses *b*, in connexion with the rail C, and four swinging tongues E, substantially in the manner and for the purposes set forth.

Second, the arrangement of the tongues, in combination with the double lever and the connecting rods G and H, for the purpose of giving a continuous rail on both sides of the track, and for the purpose of opening one pair of tongues and closing the other pair by the same motion, substantially as described.

No. 33,671.—T. J. WADLEIGH, of Sutton, N. H.—*Improvement in Pumps.*—Patent dated November 5, 1861.—The novelty of this invention consists in the arrangement of its several parts as designated in the claim.

Claim.—An improved pump composed of the stock A A′ A″, the axle D, the braces I I, and corresponding braces in the rear of I I, the collar O, the shaft H, with its right and left screws, the wheels O and E, the collar M, the arms J J, the valve rods Q Q, the arms K K, the supports L L′, the sliding block R, the mortise U, the rotary blocks S S′, with their projections *b*, the collar N, with its sliding and rotary blocks, and the lubricating cap P, combined, arranged, and operating as above set forth.

No. 33,672.—W. M. WATSON, of Tonica, Ill.—*Improvement in Mould-Board Blanks.*—Patent dated November 5, 1861.—This invention consists in making the mould-board skelp proportionally thicker at and near the land-side edge and of the proper shape, so that it will not wear through at and near that edge sooner than at other points.

Claim.—As a new manufacture the mould-board skelp, having a thickened margin, substantially as described.

No. 33,673.—WILLIAM S. WINSOR, of Port Orford, Oregon.—*Improvement in Planing Saws.*—Patent dated November 5, 1861.—The planing teeth are constructed with convex cutters projecting laterally on opposite sides, and flanges projecting radially beyond the said cutters, and adapted to follow in the path of the planing teeth, for the purpose of steadying the cutters and preventing their lateral deflection.

Claim.—The supporting flanges *a*, employed in connexion with the cutters *c* and *c′* of a circular saw, substantially as and for the purposes set forth.

No. 33,674.—JOHN WRIGHT, Jr., of New York, N. Y.—*Improvement in the Process of Refining and Purifying Sugar.*—Patent dated November 5, 1861.—The alcohol or liquor used is forced through the mass of sugar by means of a pump connected with a pipe, the end of which is placed at the bottom of a vessel containing the sugar, the impurities passing off over the sides or top of the vessel.

Claim.—Applying alcohol, white liquor, or other liquid used to wash the sugar at or near the bottom of the vessel containing the sugar, and making the alcohol or other liquid to flow up through the mass of sugar, and carry up, float out, and carry off any impurities and extraneous matter lighter than the sugar, and such other matter or substances as may be dissolved by the alcohol, white liquor, or other liquid used to wash the sugar, substantially as described.

No. 33,675.—J. C. COOK, of Middletown, Conn., assignor to WILLIAM WILCOX & CO., of the same place.—*Improvement in Liquid Meters.*—Patent dated November 5, 1861.—This invention consists in the arrangement of a valve and its operating mechanism, in combination with a cylinder and piston, for effecting the measurement of liquids, by counting the number of reciprocating movements of the piston, produced by the pressure of the liquid admitted to it by the valve on opposite sides alternately.

Claim.—First, the valve D, with its ports *d d'* and cavities *e e'*, arranged to work transversely to the stroke of the piston in a box C at one end of the measuring cylinder, and in combination with a system of ports *i o b b'* and passages I O *c*, arranged substantially as described.

Second, the valve-operating rock-shaft F, with its spiral grooves *k k'*, weighted arm F^2, and tappets *h h*, applied and arranged in combination with the piston and slide valve, to operate substantially as and for the purpose set forth.

Third, the construction and arrangement of the valve-operating rock-shaft, substantially as described, to serve as guide to the piston rod.

Fourth, combining the piston with the spirally-grooved valve-operating rock-shaft F, by means of a slide H, working in straight guides, and hooking into a circular-grooved protuberance *m* on the piston.

No. 33,676.—F. O. DEGENER, of New York, N. Y., assignor to Himself and PETER WEILER, of Bellville, N. J.—*Improved Cylinder Printing Press.*—Patent dated November 5, 1861.—The nature of this invention will be understood from the claims, which cover a series of devices that do not admit of a brief description.

Claim.—First, the vibrating, tapering endless rack, for giving a rotary motion to a rectilinear reciprocating impression cylinder.

Second, supporting the ink cylinder in a frame separate from the impression cylinder carriage, and swivelling the ink-cylinder frame on the axis of the impression cylinder, for the purpose as fully described.

Third, giving a rotating motion to an ink cylinder, by and through the rotary motion of a rectilinear reciprocating impression cylinder.

Fourth, giving to an ink cylinder, operated as described, a motion to and from the inking rollers, for the purpose as specified.

Fifth, giving to the ink cylinder motion to and from the inking rollers, by and through the motion of the vibrating rack.

Sixth, the combination of the adjustable ink cylinder with the adjustable inking roller supporters, when the ink cylinder and inking rollers are carried by and travel with the impression cylinder carriage, for the purpose as set forth.

Seventh, the combination of the adjustable inking roller supporters on a travelling carriage, with an ink cylinder having a motion to and from the inking rollers, and the adjustable bearers of the frame, for the purpose as described.

Eighth, in combination with a rectilinear reciprocating impression cylinder, having a rotary motion, the described mechanical arrangement for operating the impression cylinder gripers, said arrangement consisting of the inside arm or trip S'', the shaft R'', and the outside arm or trip T'', operated by a pin or roller of the main wheel, (or any other means,) for closing the gripers when they are taking the sheet to be printed on to the cylinder, and the inside arm or trip S''', the shaft R'', and the outside arm or trip T''', operated by the fixture *h*, or its equivalent, for opening the gripers, so as to relieve the sheet from the cylinder, whether constructed in the precise manner as described, or in an equivalent way.

Ninth, attaching the two inside arms or trips and the two outside arms or trips to one and the same shaft.

Tenth, the stationary gripers, in combination with an impression cylinder, for the purpose as set forth.

Eleventh, the travelling pile table, or its equivalent, in combination with stationary gripers, for the purpose as specified.

Twelfth, in combination with a travelling pile table, or its equivalent, and stationary gripers, the projections of the pile table, for the purpose as described.

Thirteenth, the combination of a travelling pile table with an impression cylinder, or its equivalent.

Fourteenth, governing the lower set of stationary gripers by and through the motion of the upper gripers, or *vice versa*, by means of the arm *l*, arm *o*, slit *n*, or its equivalent, and pin *m*, or its equivalent.

Fifteenth, opening the stationary gripers so as to receive the printed sheet, and allowing the gripers to close and hold the sheet and relieve it from the impression cylinder, by and through the motion of the vibrating rack.

Sixteenth, opening the stationary gripers so as to release the printed sheet and pile it, by and through the motion of the carriage.

Seventeenth, operating the paper gauges by and through the motion of the vibrating rack.

Eighteenth, constructing a cylinder printing press in such a manner as that the printed sheet, after it has been taken from the cylinder and deposited on the pile table, shall be brought in front and before the eyes of the operator, for the purpose as fully described.

No. 33,677.—R. W. DREW, of Abington, Mass., assignor to A. B. ELY, of Newton, Mass.—*Improvement in Sewing Machines.*—Patent dated November 5, 1861.—This invention relates to such a construction and arrangements of the parts that the lines of the arm on which is the rest that reaches into the toe of the shoe shall be straight, instead of in a curve; that the needle and its adjuncts, as well as the needle guide, may be continuously revolved and correspondingly changed in their position for the purpose of sewing circles, curves, and angles, as desired; that the throw of the eccentric or crank, and also the length of the needle-bar, may be altered and adjusted for different kinds and thicknesses of work; that the feed may form a guiding point for the needle and space the stitches; and that the cast off, as well as the other parts, may conform to different thicknesses of material, while it also forms a support to the needle.

Claim.—First, so constructing and arranging the parts that the needle-bar of a sewing machine can be continuously revolved in either direction at the will of the operator, as the stitching progresses.

Second, so constructing, arranging, and combining the needle-bar and feed-bar, or their equivalents, in a sewing machine that they can be continuously revolved either way, and preserve their relative positions.

Third, so constructing and arranging the thread guide or whir in a sewing machine that it can be continuously revolved, and present the thread to the needle in any desired position of the needle.

Fourth, so constructing and combining the needle and thread guide with each other that any change of position of the needle may be accompanied by a corresponding change of position of the thread guide either way or continually in either direction.

Fifth, in combination with a rotating needle stock, so arranging and operating the feed that it shall form a guiding point in advance of the needle, and space the distances between the stitches.

Sixth, so constructing the cast-off that it shall surround the needle and form a support to it while the stitch is being formed or drawn up.

Seventh, so constructing the cast-off as that it may conform itself to the thickness of the work by means of a spring pressure.

Eighth, operating the thread guide *r* by means of the rod O, substantially as described.

Ninth, the combination of the cam cylinders S and L, or their equivalents, with their connexions, substantially as and for the purposes described.

Tenth, the combination of the adjustable eccentric with the adjustable pin *r''*, or its equivalent, for changing the throw of the needle-bar so that the range of motion of the needle may be changed without changing the point to which it descends.

Eleventh, the combination of the adjustable eccentric described with its several operating parts for altering and adjusting the throw of the crank, substantially as described.

Twelfth, the mechanism for revolving the needle and the parts immediately connected therewith by hand, that the seam may be laid in any desired direction as the sewing proceeds, as in curves, angles, and lines, as they occur in sewing on boot and shoe soles.

No. 33,678.—W. H. FORBUSH, assignor to E. B. FORBUSH, of Buffalo, N. Y.—*Improved Hammock.*—Patent dated November 5, 1861.—A folding portable frame is so constructed as to support a hammock suspended thereon, and both may be folded together in a small compass for transportation.

Claim.—The combination of a portable folding frame and hammock, substantially as described.

No. 33,679.—MOSES MARSHALL, of Lowell, Mass., assignor to S. S. BUCKLIN, of Brookline, Mass.—*Improvement in Pegging Machines.*—Patent dated November 5, 1861.—This invention consists in the employment of an awl, punch, and feeder, combined and arranged so that as the hole is made for the peg, the point on the swivel plate enters the same and feeds the device along on the return motion of the awl and rod, so that each time the awl makes a hole the punch will drive a peg into the hole made at the previous descent of the awl.

Claim.—The point S, on swivel plate K, when arranged to operate as shown and described, to wit, entering the hole previously made by the awl, and causing the machine to move along on the sole, so as to bring the peg to be driven simultaneously with the succeeding descent of the awl directly over the hole made at the previous descent of the awl.

Also, the point S, when so arranged as to become a fixture under the peg, to enable the operator to turn the machine on any curve or angle, while the relative position of the hole and peg will remain the same.

No. 33,680.—W. S. MCCORMICK, assignor to C. H. MCCORMICK, of Chicago, Ill.—*Improvement in Cutting Apparatus of Reaping and Mowing Machines.*—Patent dated November 5, 1861.—Upon the side of the cutter is affixed a series of long, narrow projections, inclined on one side and vertical on the other, like ratchet teeth, and parallel to the line of vibration to the cutter, so as to act by their vertical sides as a series of rake teeth, for the purpose of clearing the tough and fine fibres of grass from the slots of the fingers through which the cutter vibrates.

Claim.—The cutter having a series of clearing projections constructed, arranged, and vibrating as described, in combination with the series of guard-fingers arranged as described, whereby the liability of the cutting apparatus to clog is diminished, substantially as described.

No. 33,681.—W. S. McCORMICK, assignor to C. H. McCORMICK, of Chicago, Ill.—*Improvement in Cutters for Reaping and Mowing Machines.*—Patent dated November 5, 1861.—The cutter bar is made thinner than usual, and to give it stiffness, and, when necessary, more rear bearing surface, a vertical rib or flange is made on one or both of its sides, behind the blade, the bar extending in the rear of the vertical flange far enough to form a horizontal flange, and one or more of the flanges of the cutter bar being notched to make them take hold more readily of obstructing matter, and detach or discharge it from the guide in which they slide.

Claim.—The flanged cutter bar with notches in one or more of the flanges, substantially as described.

No. 33,682.—WILLIAM MILLER, assignor to Himself and J. B. BRIDGMAN, of Boston, Mass.—*Improved Guard Attachment for Door Latches.*—Patent dated November 5, 1861.—This invention consists in applying a bolt to the inner side of a door, and in such a relative position to the key, that the bolt may, when necessary, be passed through the bow or handle of the key and prevent the latter from being turned by pincers or pliers on the outer side of the door.

Claim.—The socket A, provided with the bolt D, and connected by an arm B and joint *a* to the plate C, which is attached to the door C at such a point that the socket and bolt may have a proper relative position with the bow *d* of the key, to operate as and for the purpose set forth.

No. 33,683.—G. R. MOORE, of Westford, Mass., assignor to A. B. ELY, of Newton, Mass.—*Improved Steering Apparatus.*—Patent dated November 5, 1861.—The axis of the large wheel that gears into the wheel upon the shaft of the steering wheel, is prolonged and bent first at a right angle, and then at an acute angle, forming a crank that passes through and moves freely in a sleeve which is hung on pivots on each side in the circular ring-head of the rudder-post, so that a continuous turning of the wheel in one direction will cause the rudder, after it has been turned to one side, to change its direction and turn to the other side, without changing the turning direction of the steering wheel.

Claim.—Imparting a reciprocating motion to the rudder of a vessel by means of the acute angled crank and pivoted sleeve, substantially as described.

No. 33,684.—GEORGE MUNGER, of New Haven, Conn., assignor to Himself, L. CANDEE, and J. E. P. DEAN, of the same place.—*Improvement in Chalk Erasers.*—Patent dated November 5, 1861.—The object of this device is to rub off chalk marks from blackboards without the aid of moisture. It also serves for rubbing and cleaning the glass of windows, mirrors, &c.

Claim.—The fitting or securing of straps *b*, of chamois or sheep skin, or other similar or soft leather or cloth, in a block A, substantially as shown, to form an improved article of manufacture for the purpose specified.

No. 33,685.—O. A. A. ROUILLION, assignor to W. HERMAN STUBBE, of New York, N. Y.—*Improved Bed-Bottom.*—Patent dated November 5, 1861.—This invention is explained by the claim and engraving.

Claim.—An elastic bed-bottom constructed of a series of spiral springs interlocked or connected together to form one or more layers or bottoms one over the other, and attached to a suitable frame, substantially as shown and described.

No. 33,686.—W. H. TOWERS, assignor to W. S. BARD, New York, N. Y.—*Improved Broom.*—Patent dated November 5, 1861.—This invention consists in inserting in the central part of the broom a perforated strip of leather or other suitable material having an additional body of grass or other like material attached to it in such a manner as to give a body or density to the broom below its attachment to the handle, and where it is mostly required for use.

Claim.—Embodying and securing in the central part of the broom below the handle, a curved, rigid strip or plate C, and divergent body or bodies of Tampico grass, South American bass, or other like material, substantially in the manner and for the purpose set forth.

No. 33,687.—FERDINAND WÜTERICK, assignor to Himself and J. M. HATHAWAY, New York, N. Y.—*Improvement in Machines for Making Cigars.*—Patent dated November 5, 1861.—This machine is designed for rolling wrappers upon the cigar, and finishing its point. The pointing rollers are formed of a series of sleeves threaded upon wire, and form the pocket to roll up the wrapper and shape the point. By means of a male die fitting into a female die the wrapper is cut to the requisite shape to form the point of the cigar. A hinged shaper is so arranged as to come in the right place to be used as a pattern for cutting and shaping

the piece that forms the point. The cylinders or rollers over which the belt passes are composed of sleeves placed upon curved shafts to give shape to the cigar, the sleeves being held so as to revolve together by means of pins or dowels fitting in corresponding holes, so as to conform to the curve of the shaft.

Claim.—First, the pointing rollers P P P, for pointing a cigar, by pressing and rolling upon the head or point of it while the wrapper is being rolled on, as described.

Second, making pointing roller P to open, for the greater convenience of putting in the bunch, or filling and taking out the cigar after it is completed, as described.

Third, a movable pointer to press upon the head or point of a cigar and form it while the wrapper is being rolled on and the cigar is being made, as described.

Fourth, cutting the wrapper after it is rolled upon the cigar up to, or upon, the point by means of shear knives T and W placed at or near the point of the cigar, as set forth.

Fifth, cutting the wrapper the required shape and length after it is rolled upon and near to the point of the cigar, by means of die-cutters Y and X, when placed in proper position, as described.

Sixth, the hinged pattern or shape Z, to be used as a pattern to shape the wrappers to form the point of the cigar, as described.

Seventh, connecting the cylinders or rollers G and G by pins or dowels, as described.

Eighth, placing roller or rollers N N in the pocket of a cigar machine and holding them there by adjustable strip or strips M for holding the cigar while the pointer presses upon and finishes the point, as described.

No. 33,688.—D. B. ABBEY, of Horse Head, N. Y.—*Improvement in Corn-Planters.*—Patent dated November 12, 1861.—On each seed-tube is fitted loosely a collar, to each of which is attached a furrow share. The collars are connected to the under side of the frame by rods which are allowed to swing under the frame. To the lower ends of the seed-tubes are attached the stocks of the covering shares, the rear end of each stock being connected to the collar by a rod.

Claim.—The swinging seed-tubes L, with the collars *g* fitted on them and provided with the furrow shares O, in connexion with stocks or bars P attached to the lower ends of the tubes L, and provided with the covering shares Q, all being arranged to operate as and for the purpose specified.

No. 33,689.—ALBERT ANDERSON, of Bridgeport, Conn.—*Improvement in Roller Skates.*—Patent dated November 12, 1861.—This invention is explained by the claim and engraving.

Claim.—The construction of wheeled skates with a large front wheel D, substantially as shown and described, when the axis of said wheel is arranged above that portion of the stock which receives the ball of the skater's foot, so that obstructions may be easily mounted, and so that the skater will be prevented from falling forward, as described.

Also, the construction and arrangement of the stock A so that its rear portion will be higher than the part which receives the ball of the foot, so that the weight of the skater will be partially thrown forward upon the large front wheel, and so that the skater will be prevented from falling backward, all as set forth.

No. 33,690.—SILAS BARKER and A. H. SMITH, of Hartford, Conn.—*Improvement in Water Meters.*—Patent dated November 12, 1861.—The piston of the large cylinder consists of a brass tube made twice the length of the stroke, and near the centre are two heads, placed at a suitable distance apart, to allow of the passage of water. The outside of the piston is covered with glass, to prevent the wear of the packing. To the centre of the front head is attached the piston-rod, and to the back head the delivery pipe. The leather packing is held against the piston by means of springs placed between the cylinder and packing.

Claim.—First, the arrangement of the cylinder A and the hollow piston B, said piston having an outlet H from one end.

Second, the combination of the piston D and valves K K, said valves being on the end of the piston D, and moved by the valve rod F.

Third, the combination of the glass covering L on the piston B and the leather packing M in the centre part of cylinder A, said packing being kept fitted to the piston B by the springs N, and held between the three parts of the cylinder A A A, all as set forth and described.

No. 33,691.—O. BILLINGS, of La Grange, O.—*Improvement in Grain and Grass Harvesters.*—Patent dated November 12, 1861.—The track wheel has its arm or axle at the end of a crank, which is at one end of a shaft, fitted in suitable bearings underneath the front part of the frame. On this shaft is a segment, to which a cord or chain is attached, and connected to a spiral spring fitted within a horizontal tube on the frame, the cord being attached to a set screw at the rear end of the spring, so that by adjusting the screw the tension of the spring and consequent pressure of the finger bar on the earth may be regulated as desired. This spring serves as a counterpoise, and facilitates the yielding movement of the finger bar and sickle.

Claim.—First, the attaching of the front end of the shoe K of the finger bar to the adjustable bar N, which is connected by a pendent P to the lever Q, as shown and described, for the purpose of regulating the height of the front ends of the finger *e*, as set forth.

Second, the arrangement of the spring lever R relatively with the lever S and finger bar L, as shown and described, whereby the weight of the outer part of the finger bar and sickle is counterpoised, or nearly so, and whereby said finger and sickle may be raised bodily when required in order to pass over obstructions.

Third, the arrangement of the crank axle E of the track wheel C, segment G, and spring H, substantially as and for the purpose set forth.

No. 33,692.—URIAH BILLINGS, of New Bedford, Mass.—*Improvement in Machines for Making Horse Shoes.*—Patent dated November 12, 1861.—Combined with a stationary die, around which the shoe is formed, is a pair of gripers for holding the blanks or pieces of bar iron of which the shoes are to be formed, and a reciprocating carriage, to which is attached, by swinging arms, a pair of forming rollers, which are directed by fixed but adjustable guides, for the purpose of forming shoes around the stationary die.

Claim.—The combination of the goose neck B, fixed die C, and discharge aperture *f*, with the forming mechanism D E F G H, all constructed, arranged, and operating as and for the purposes set forth.

The employment of the griper levers J J, in combination with the travelling rollers L L′ and the extension arms E′ E′, substantially as shown and described.

The combination of the vertical griping levers J J with the forming rollers F F and die C, substantially as and for the purpose shown and described.

No. 33,693.—RANSOM COOK, of Saratoga Springs, N. Y.—*Improved Exhaust Fan.*—Patent dated November 12, 1861.—The object of this device is to withdraw impure air from polishing and grinding rooms, tunnels, and mines, by means of a cylinder projecting through the wall, with which cylinder a tube is connected, and within which tube is a wheel provided with fans or vanes.

Claim.—The construction of an exhaust fan in the manner substantially as described.

No. 33,694.—RANSOM COOK, of Saratoga Springs, N. Y.—*Improved Fan-Blower.*—Patent dated November 12, 1861.—The fan-wheel is placed within the enlarged end of a receiver, into which the blast from the fan-wheel is driven. The receiver is composed of three parts, connected together, the central part being cut away to allow a free passage of the blast from the large to the small end of the receiver.

Claim.—A fan-blower, constructed substantially as described.

No. 33,695.—J. M. CURRIER, Newburyport, Mass.—*Substitute for Pins in Bowling Alleys.*—Patent dated November 12, 1861.—This invention consists of an apparatus provided with nine upright "pedals," each numbered and hung on an iron rod, and provided at their upper ends with ratchets, so that as the balls strike the "pedals," a corresponding number is disclosed at the top of the machine in front. A dial may be affixed to the back of the machine to indicate the number of games played. In the rear of the machine is an inclined groove to conduct the balls to a trough which is raised by means of a wire so as to reconduct the balls to the head of the alley.

Claim.—First, the suspended pedals A A A.

Second, the arrangement consisting of the devices 1, 2, 4, and 5, for elevating the balls and depositing them on the inclined plane 3.

Third, the devices for raising, adjusting, and operating the number plates N N N.

Fourth, the devices for raising the number plates, elevating and depositing the balls and recording the number of games played, all by a single operation, as described.

Fifth, the dial O for recording the games, as arranged and described, in combination with a bowling alley.

Sixth, a bowling alley, comprising the above devices, constructed and arranged as fully shown and described in the specification and the drawings accompanying the same.

No. 33,696.—LLOYD DAY and MILTON DAY, of Carroll county, Md., and ANDREW MERCER, of Richmond, Howard county, Md.—*Improvement in Railroad Rails.*—Patent dated November 12, 1861.—The rail consists of two parts, the lower one of which is formed with a V-shaped groove on its upper side into which a triangular-shaped bar is secured by means of bars or braces passing through oblong holes in both rails.

Claim.—A new and improved form of continuous railroad rail and a new method of combining the triangular bar with the chair or base bar for its reception with braces, supports, or fastenings, substantially as described.

No. 33,697.—K. H. ELLIOTT and JAMES BROWN, of Morrisville, Vt.—*Improved Revolving Clothes Drier.*—Patent dated November 12, 1861.—This invention consists of a revolving clothes drier, designed to be suspended from a horizontal arm attached to the side of a building or any proper support, and so arranged as to be readily raised and lowered, and secured at any desired height.

Claim.—The frame E, in connexion with the lifting rope H, clamp J, swivel-eye L, and

block D, the latter being connected to the horizontal arm A by the swivel connexion formed of the pin C and hook B, all arranged substantially as and for the purpose set forth.

Further, the arrangement of the thimble I, collar *g*, and hub F, with the knots *f h* on the rope H, substantially as and for the purpose specified.

No. 33,698.—LEWIS FACE, of Covington, Ohio.—*Improved Washing and Wringing Machine.*—Patent dated November 12, 1861.—This invention consists in the employment of a jointed or hinged box or frame which is fitted within the suds box and used in connexion with oscillating washboards, one of which latter is fitted in the suds box, and the other in the hinged box or frame, Applied to the suds box is a wringing device which is used when the box or frame is elevated from the suds box.

Claim.—First, the combination of the suds box A with the box or frame B, the latter being secured to the former by hinges or joints, and said box or frame having the lever or hand frame C attached, which frame C is connected to the washboards C′ D by the rods *h h h′ h′*, all being arranged, as shown, to admit of the elevation of the box or frame C when not required for use.

Second, the uprights D D′, attached to the sides of the suds box A, the upright D′ being provided with the thimble *m′* and crank E, arranged substantially as shown and described, so as to grasp and hold the ends of the clothes and insure the proper twisting or wringing of the same, as set forth.

Third, the adjustable box or frame B and washboards C′ D, arranged as shown in relation with the suds box A, in combination with the wringing device formed of the uprights D D′, thimble *m′*, and crank E, all arranged for joint operation, substantially as and for the purpose set forth.

No. 33,699.—H. P. GENGEMBRE, of Tarentum, Pa.—*Improvement in Apparatus for Distilling Coal Oils.*—Patent dated November 12, 1861.—This invention consists in a means of feeding the still by which the oil is delivered thereto at a high temperature, as fast as the distillation proceeds, so that the quantity in the still is always nearly the same, and by which the boiling over of the still is prevented. Within the still is arranged a tray furnished with an overflow-pipe leading down to near the bottom of the still, over which tray the oil from the coal is caused to flow in a thin sheet, so that its most volatile portion is evaporated before entering the overflow-pipe.

Claim.—The feeding and heating apparatus, consisting of the reservoir B, pipe D, heater E, cock *b*, and float *d*, the whole applied in combination with each other and with the retort, substantially as and for the purpose specified.

Also, the tray G, applied within the retort, and in combination with a feeding apparatus, substantially as and for the purpose specified.

No. 33,700.—H. B. GOODYEAR, of New Haven, Conn.—*Improvement in Suspending Telegraph Wires.*—Patent dated November 12, 1861.—This invention consists in suspending the copper telegraph wire by means of iron hooks from an iron wire at intervals between the posts, for the purpose of preventing the copper wire from sagging.

Claim.—The method described of suspending telegraph wire of insufficient strength to support itself on poles set at usual distances apart, the same consisting in the use of an auxiliary iron wire or suspension cable, and hanging the said telegraph wire upon it in the manner and for the purpose set forth.

No. 33,701.—S. S. HAMILL, of East Cambridge, Mass.—*Improvement in Railroad Switch.*—Patent dated November 12, 1861.—This device is designed to be used on city or horse railroads, and the invention consists in an arrangement of the wheel which is brought in contact with an elevated central curved guide-rail, whereby the said wheel, when thrown downward to come in contact with the guide-rail, is locked on one of the axles of the car, and always, when adjusted for operation, brought in a relative position with the guide-rail and retained in such position. The movement of the wheel is controlled by the driver.

Claim.—The arrangement of the pendulous frame I, constructed as shown, with the axle B, bed A, rod K, lever L, spring M, and rod N, all as shown and described.

No. 33,702.—W. H. GRAY, of Philadelphia, Pa.—*Improvement in Epaulets.*—Patent dated November 12, 1861.—The fringe is secured to a detachable plate or shell fitting within an outer shell, so arranged as to admit of its ready removal when the shell requires cleaning, and when it is to be worn without the fringe.

Claim.—Securing the detachable inner shell B having the fringe attached to the outer shell A by means of the strap *a* in the manner substantially as described, whereby the necessity of other fastenings for that purpose is dispensed with.

No. 33,703.—J. W. HARDIE, of New York, N. Y.—*Improved Construction of Knife and Fork.*—Patent dated November 12, 1861.—This invention is explained by the claim and engraving.

Claim.—Forming the knife handle and blade and the fork handle and tines, respectively

out of a single piece of sheet steel, when the handles are formed thereby in the usual shape and proportions of other knife and fork handles, and nearly enclose all sides, leaving only narrow apertures *d f* therein, for the purpose of closely packing together and for readily cleaning as a new article of manufacture, substantially as specified.

No. 33,704.—W. J. HAZEN, of Bethany, Pa.—*Improvement in Moth-Traps for Bee-hives.*—Patent dated November 12, 1861.—The worm-trap is pivoted at one end to the bottom of the hive, and provided at its other end with an opening covered with a wire gauze, for the purpose of affording ventilation, and at the same time preventing the entrance of insects to the hive. The radiating grooves are of sufficient size to admit the worms and afford them means of escape from the bee, so that they will not attempt to cut farther into the wood.

Claim.—The worm-trap *g* pivoted at one end to the bottom of the hive as described, and provided at the other end with the wire gauze-covered opening and the grooves 1, 2, 3, 4, &c., radiating therefrom, arranged and operating in combination with the inclined bottom of the hive, in the manner and for the purpose specified.

No. 33,705.—G. A. HIGGINS, of New York, N. Y.—*Improvement in Camp Stoves.*—Patent dated November 12, 1861.—This stove is so constructed as to admit of its being packed with its necessary fixtures in a small compass when not required for use.

Claim.—First, the arrangement and combination of the stove A and adjustable flues E I, substantially as and for the purpose specified.

Second, in combination with the stove A and adjustable flues E I the broiling oven H and vessels C D G, two or more, arranged as shown to admit of being packed away when not required for use.

Third, the employment and use, in combination with the stove A, of one or more supplemental ovens K, when constructed substantially as shown, to admit of being readily detached and folded up when not required for use, and readily applied to the stove when required for use, substantially as set forth.

No. 33,706.—J. B. HYDE, of Newark, N. J.—*Improvement in the Manufacture of Manure from Fish.*—Patent dated November 12, 1861.—This invention is explained by the claim.

Claim.—The mixing of peat, marl, clay, and plaster, or either or any of said material, with fit pulp or pomace for effectually grinding or pulverizing said mixture.

No. 33,707.—CHARLES KAISER, of New York, N. Y.—*Improvement in Machinery for Making Needles.*—Patent dated November 12, 1861.—This invention consists in a combination of devices for cutting the grooves in needles, particularly those used in sewing machines, as will be understood by reference to the claims and engraving.

Claim.—The combination of the following members, constituting a machine for grooving needle wire, viz: a rest for the needle wire, a rotating grooving saw, a travelling forceps, and mechanism to cause the saw to approach and recede from the axis of the needle wire and to hold it in place, the combination, as a whole, being and operating substantially as described.

Also, in combination with the above enumerated members, a second rotating grooving saw and mechanism to cause the saw to approach and recede from the axis of the needle wire and to hold it in place, substantially as set forth.

Also, the combination of the first part of my invention with a stationary forceps or holder, substantially as set forth.

Also, the combination of the third part of my invention with a pair of knives in such manner that the grooved needle wire is cut at the proper intervals into grooved needle blanks, substantially as set forth.

Also, the combination of the first part of my invention with a support for the needle wire and with a straightening mechanism, substantially as described.

No. 33,708.—G. R. KELSEY, of West Haven, Conn.—*Improved Curtain Fixture.*—Patent dated November 12, 1861.—The parts are so arranged that by drawing down the curtain the spring is wound up, and the roller is retained in position by a spring ratchet. Upon drawing back the spring ratchet by a cord the curtain will be raised by the force of the coiled spring acting on the roller.

Claim.—The curtain fixture, consisting of the roller fitted with its discs and caps, and operated by the coiled spring, ratchet-wheel, and spring ratchet, when the whole is constructed, arranged, and fitted for use, substantially as described.

No. 33,709.—J. B. KENDALL, of Boston, Mass.—*Improved Horse-Shoe.*—Patent dated November 12, 1861.—The auxiliary shoe being provided with heel and toe pieces, is secured to the stationary shoe by means of screws, the heads of which serve as calks, by which means a horse may be readily sharp-shod without the delay of removing the old shoe.

Claim.—The auxiliary shoe B, when provided with permanent heel and toe pieces *f* and *g g*, in combination with stationary shoe A, both parts being secured together, substantially as and for the purpose set forth and described.

No. 33,710.—J. W. MACKENZIE, of Brooklyn, N. Y.—*Improved Fire Escape.*—Patent dated November 12, 1861.—A round slotted tube is attached to the building under the cornice by slotted or clamped bolt brackets. On the under side of the tube is a longitudinal opening, and inside the tube is an iron traveling ball which revolves upon wheels, to which ball an iron strap is attached and passes through the opening. This strap is provided with a tackle to which a life-car can be attached, the longitudinal opening in the tube admitting of the car being moved from one window to another.

Claim. The round slotted tube-road and travelling roller, as shown in the drawings; and the arranged combination of fire and water-proof tube road and traveller, with fire-proof pendent tackle and iron mousing pin to hook as arranged and described, for the purpose of saving life and property, and the raising of hose and water to any part of the building, substantially as described.

No. 33,711.—EMILE MARTIN, of New York, N. Y.—*Improvement in Self Fastening Pins.*—Patent dated November 12, 1861.—This invention consists in covering the point of the pin with a tube provided with a spring bolt that passes into an aperture made near the point of the pin for securing it, the tube being connected by a chain to the head of the pin.

Claim.—A self-fastening shawl or dress pin constructed substantially as described, the pin being held firm and steady and secure by means of the guide tube *e*, and spring-fastening *h* or *i*, or equivalent combination.

No. 33,712.—E. P. RUSSELL, of Manlius, N. Y.—*Improvement in Harvesters.*—Patent dated November 12, 1861.—This invention relates to a method of attaching the finger bar to the main frame of the machine, whereby the finger bar and sickle are attached to conform to the inequalities of the surface of the ground, and side-draught obviated. The driver's seat is arranged so as to be adjusted to compensate for the different adjustments of the finger-bar and the machine kept balanced. The working parts are so combined as to be automatically thrown out of gear upon backing the machine.

Claim. First, the attaching of the finger bar J to the main frame A, by means of the shoe K, provided with two eyes *h h*, which are fitted on the oblique or diagonal draw-bar L, the front end of which is connected by a joint or pin to the front left hand corner of the frame A', and the back end fitted in a bar M, the outer end of which is attached by a joint or pin *j*, to the back part of frame A, substantially as and for the purpose set forth.

Second, in combination with a shoe K, and draw bar L, constructed and connected as explained, elongating the rear eye *h* of the said shoe in a vertical direction, to admit of a certain degree of play of the back part of the shoe and finger-bar, and also of the platform when used.

Third, attaching the driver's seat O to bars P P, which are fitted at their lower ends in sockets Q Q, attached to the frame A, and arranged substantially as and for the purpose set forth.

Fourth, transmitting motion to the sickle through the medium of a screw sleeve D, adapted to be automatically thrown out of gear with its shaft by a backward motion of the machine, substantially as explained.

No. 33,713.—E. P. RUSSELL, of Manlius, N. Y.—*Improvement in Reels for Harvesters.*—Patent dated November 12, 1861.—The object of this invention is to hang the reel shaft so that it will play in a manner corresponding with the play or movement of the sickle caused by the latter conforming to the inequalities of the surface of the ground, by which means the sickle is allowed to cut the grain at a uniform height and corresponding with the undulating surface of the ground, without racking the reel. Means are provided for readily and securely attaching the reel arms to their shaft.

Claim.—First, the arrangement and combination of the hollow or tubular shaft G of the driving pulley *e*, the bearing F on the pin E and the sliding-reel shaft H, substantially as and for the purpose set forth.

Second, attaching the arms *e* to the reel-shaft H through the medium of the metal heads J J, formed each of two parts, *f f'*, provided with radial grooves *g* having lips *i* bolted together by the bolts *h* and secured to the shaft H by the bolts *j*, substantially as described.

No. 33,714.—C. H. SHANK and S. STEPHENSON, of Hummelstown, Pa.—*Improvement in Threshing Machines.*—Patent dated November 12, 1861.—This invention consists in providing the machine with removable toothed concaves, so constructed as to admit of their being placed respectively over or under the threshing cylinder whenever it is desirable to use an overshot or undershot thresher, the feeding board being raised or lowered to correspond with either arrangement.

Claim.—Converting the machine either into an overshot or undershot thresher by means of the removable and convertible concave E and false concave H, concave G, and false concave I, when respectively employed in connexion with the cylinder C and feeding board D, substantially in the manner and for the purpose specified.

No. 33,715.—THOMAS SLAIGHT, of Newark, N. J.—*Improved Padlock.*—Patent dated November 12, 1861.—This invention consists in the employment of a dog so combined with

a guard bar that the latter will keep the former in proper position, and the key in unlocking the lock be made to act directly on the guard bar or a pendant thereof for securing the shackle of the lock. An arrangement of devices is employed whereby a false key, if inserted, cannot be withdrawn.

Claim.—First, the employment or use of the dog C and guard bar D, when the latter is provided with a prong *a* arranged in such relation with the lower part of the dog C that said dog may be actuated and thrown out or free from the shackle by the action of the key in unlocking the lock, substantially as described.

Second, the employment or use of the key-catchers *k*, one or more, arranged in connexion with the tumblers, or formed on separate or special plates, to operate as and for the purpose specified.

No. 33,716.—DAVID STEINBERG, of San Francisco, Cal.—*Improved Mode of Setting Artificial Teeth.*—Patent dated November 12, 1861.—This invention consists in the combination of hard vulcanized India-rubber with a gold, platinum, or other metal plate, as a base for artificial teeth, in such a manner that the India-rubber serves as a means of uniting the teeth with the plate, but is prevented from coming in contact with the palate and gums by the interposition of the plate.

Claim.—Combining the teeth with the gold, platinum, or other metal plate, by means of India-rubber or other gum capable of vulcanization, applied in the manner specified.

No. 33,717.—SILAS STUART, of Sterling Center, Mass.—*Improvement in Steam Boilers.*—Patent dated November 12, 1861.—The central portion of the boiler consists of an upright cylinder, around which but separated from it by a flue space is an annular water chamber, both being connected by means of tubes at their upper parts. The space between the lower parts of the tube and cylinder constitutes the fire chamber. The water chamber is surrounded by a jacket, to the lower part of which is attached the smoke pipe. The annular grate is connected by arms to a central tubular hub which rests on a lever, and is so arranged that it may be raised or lowered to regulate the draught and allow the escape of ashes from the fire chamber.

Claim —The tube A and chamber B connected by the tubes B′ and forming the boiler and fire chamber A′, in combination with the jacket E and pipe I, all arranged substantially as and for the purpose set forth.

Also, the annular grate J when arranged to rise and fall, substantially as described.

No. 33,718.—J. P. TICE, of New York, N. Y.—*Improvement in Projectile for Rifled Ordnance.*—Patent dated November 12, 1861.—The hard metal portion of the body of the projectile is provided with projecting collars on each side of its expanding ring for the purpose of confining the ring in a longitudinal direction, and preventing the formation of uneven edges on the ring which tend to deflect the projectile. The packing ring of soft metal is enveloped with a band of copper or brass corrugated longitudinally, to provide for its expansion circumferentially.

Claim.—First, the construction of a projectile for ordnance with its body composed of a single casting of iron and a surrounding ring of lead or other suitable material capable of lateral expansion, when such casting is of such form that the force employed to ram it home, or the force to which it is subject in its discharge, will cause it to be broken into two or more pieces, which will act in such manner as to cause the said ring to be expanded, substantially as and for the purpose specified.

Second, constructing the two parts A and B of the projectile with collars *i* and *j*, substantially as and for the purpose specified.

Third, the corrugated metal band *r* applied in combination with the packing ring *c*, substantially as set forth.

No. 33,719.—JOHN TUSTIN, of Petaluma, Cal.—*Improvement in Reaping Machines.*—Patent dated November 12, 1861.—To the back part of the platform is attached an upright having a socket on its upper end, the upper part of which socket is inclined outwardly, and provided with a screw and two jam nuts for adjusting the rake forward or backward. At one end of the screw is a guide fitted on a bar, the latter being fitted at its lower part to a guide attached to the rake bar. To the bar I is attached the upper part of a spring, its lower end resting on the guide of the rake bar for the purpose of keeping the rake in contact with the platform.

Claim.—First, connecting the swivel guide H to the upright G by means of a screw *p*, passing through a nut or socket *o* on the upright, and provided with jam nuts *q q*, substantially as shown, for the purpose of adjusting the shoe or rake R further forward or backward on the platform B, as may be desired.

Second, the arrangement and combination of the two bars I J, and spring L, with the guide H, and crank *r*, of shaft M, all constructed and employed in the manner explained, to admit of the operation of the shoe or rake K, on the platform B, as set forth.

No. 33,720.—G. W. VAN BRUNT, of Rolling Prairie, Wis.—*Improvement in Seeding Machines.*—Patent dated November 12, 1861.—Secured to a shaft is a series of hubs of the

form of cylinders provided with radial flanches, the spaces between which form the seed cells. Upon each hub is fitted a shell or hollow cylinder, slotted longitudinally, to receive the flanches of the hubs. The shells are provided with flanches on their outer ends, fitting in sockets attached to a slide which forms the bottom of the box, and to which the seed tubes are attached. By the movement of the slide the capacity of the seed cells is varied as circumstances may require.

Claim.—The arrangement of the rotating hubs G and sliding shells or cylinders H, the latter being connected with the slide J, having the tubes Q attached, substantially as and for the purpose set forth.

No. 33,721.—JUSTUS BARON VON LIEBIG, of Munich, Bavaria.—*Improvement in Electroplating with Copper and other Metals the Silvered Surfaces of Mirrors and other Articles, for Protecting the same.*—Patent dated November 12, 1861.—The nature of this invention is explained by the claim.

Claim.—The use, in the galvano-plastic process of depositing upon silver or silvered surfaces, gold, copper, nickel, or other metals, of the neutral solutions of the metal to be deposited, prepared with the double tartrate of soda, potash, or ammonia, in the manner substantially as described.

Also, the mode hereinbefore described of coating the silvered surfaces of glass mirrors or other articles with a metallic film of gold, copper, nickel, or other metals, by the use, in the electroplating process, of the neutral solution of copper and the alkaline solutions of other metals, in the manner substantially as set forth.

No. 33,722.—FREDERICK WALTON, of Haughton Dale, Denton, England.—*Improved Mode of Treating Drying Oils for the Manufacture of Varnish and other purposes.*—Patented in England January 27, 1860.—Patent dated November 12, 1861.—This invention consists in converting drying oils into semi-resinous bodies, which latter are dissolved in volatile solvents. The preparation thus obtained, it is stated, dries rapidly, like spirit varnish, and leaves a flexible and tough film, similar to that produced by oil varnish.

Claim.—First, as an improved article of manufacture, a varnish as made, by converting drying oil into semi-resinous material, in manner as described, and then dissolving in a solvent, as stated.

Second, the producing a semi-resinous material from drying oil by the combined process of exposing it in thin films, on a suitable surface, to currents of warm air, and afterwards separating it from the surface either by a solvent or by pressure, as described.

Third, in the production of the semi-resinous material, as described; the preparing drying oil by causing it to pass repeatedly in very fine streams through warm air, as described.

Fourth, the producing, by rollers or otherwise, sheets of semi-resinous material, either alone or mixed with other substances, the said sheets being either combined with a woven or other fabric, or otherwise, as described.

No. 33,723.—ENOS WATERBURY, of Stamford, Conn.—*Improved Automatic Gate.*—Patent dated November 12, 1861.—This invention relates to that class of gates which are made to open and close by means of the wheels of the vehicles actuating certain levers which put in motion the various parts, the movement of the gate being governed by a weight connected with a sector and gearing, and arranged with a catch or fastening.

Claim.—First, the arrangement of the sector F, with a sliding weight G attached, toothed segments *d d*, placed loosely on shaft D, arms *o o*, attached to the shaft D, and the plate R, attached to the sector F, the arms *o o* being connected to the segments *d d*, which gear into the segments *c c* by the pins *p p*, and the plate R connected to the arm H′ by the pin *t*, substantially as and for the purpose set forth.

Second, the flap *g*, connected with the shaft D, as shown, in connexion with the sliding rods *l l* on the gate, all arranged to operate as and for the purpose set forth.

No. 33,724.—JAMES WHITE, of Cleveland, O.—*Improved Camp Bedstead.*—Patent dated November 12, 1861.—The parts composing the bed are so constructed as to be folded up and packed in a small compass without detaching any of the parts. A cam is fixed to the side rails for stretching the canvas when the bed is to be used.

Claim.—The pieces D D and cams F, in combination with the side pieces A A′, head pieces H H′ and K, legs B, and canvas G, when these several parts are constructed, arranged, and operated as and for the purpose specified.

No. 33,725.—J. M. LUTHER, assignor to W. E. HARTSHORN, of Salina, N. Y.—*Improvement in the Process of Purifying Brine for the Manufacture of Salt.*—Patent dated November 12, 1861.—The object of this invention is to neutralize or expel by precipitation the impurities in the brine, such as the chlorides of calcium and magnesium and sulphate of lime.

Claim.—The introduction of bicarbonate of soda or salsoda into the brine in the manufacture of salt by the boiling process, either before or during the boiling process, substantially as and for the purpose specified.

No. 33,726.—JOSEPH SHORT, of New York, N. Y., assignor to CHARLES SHORT, of Salem, Mass.—*Improvement in Knapsacks.*—Patent dated November 12, 1861.—This inven-

tion consists in so arranging the back and shoulder straps and the neck strap, and connecting them with the knapsack, that the whole weight of the latter is brought directly upon the shoulders and across the back of the neck, instead of bearing upon the chest, as usual.

Claim.—The arrangement of the back and shoulder straps E E, the neck strap F, and the bottom straps *h h*, the same being constructed and applied together and to the bottom of the knapsack, in manner and so as to operate as set forth.

No. 33,727.—TURNER WILLIAMS, assignor to Himself and DAVID HEATON, 2d, of Providence, R. I.—*Improved Crank for Driving Sewing Machines and other Machinery.*—Patent dated November 12, 1861.—This invention consists in combining a device described in the patent granted March 5, 1860, to Williams and Heaton, with a crank, by means of which the "dead centre" is avoided in said crank, and the crank is made to turn always in one direction, the stroke of the treadle being limited or measured without the aid of buffers or other similar devices.

Claim.—First, attaching the connecting rod L to two auxiliary pins *h*, or their equivalent, instead of directly to the crank pin *d*, substantially as shown and described.

Second, the alternate connecting and disconnecting of the said auxiliary pins, or an equivalent means of attachment to and from the crank pin *d* of a crank, in the act of turning such crank by means of a treadle or other device for the imparting a reciprocating movement, substantially as described, for the purpose specified.

No. 33,728.—J. D. WOODRUFF, of Brooklyn, N. Y., assignor to T. B. BECK, of Yonkers, N. Y.—*Improvement in Saddles.*—Patent dated November 12, 1861.—This invention consists in attaching to each side of the pommel of the saddle, pieces or stops at an inclination to fit the leg of the rider, for the purpose of preventing him from being thrown forward and injuring his person.

Claim.—The arrangement, as described, and at a suitable angle of inclination to overhang and support the leg of the rider equally along their surface from top to bottom of the stops 5 upon a riding saddle, substantially as described, and in such a manner as to secure the advantages set forth.

No. 33,729.—H. S. FISHER, of Newburg, Pa.—*Improved Means of Sealing Preserve Cans.*—Patent dated November 12, 1861.—The paper or other fibrous pallet used is saturated with a composition of melted beeswax and rosin, and is secured over the opening of the can by a metal plate or cap, which is pressed upon it by a wedge or wedges passing under a spring-rod secured at both ends to the can, whereby India-rubber rings are dispensed with, and the unsealing of the can readily effected.

Claim.—The use of paper or other fibrous pallets, saturated and coated on both surfaces with a composition such as specified, in combination with a preserve can or jar, and with the cap B, and retaining device C, in the manner and for the purpose specified.

No. 33,730.—NATHAN AMES, of Saugus Centre, assignor to PARKER & PERKINS, of Meriden, Conn.—*Improved Means of Attaching Forks, Spoons, and Knives.*—Patent dated November 19, 1861.—The fork and spoon are secured to the knife by means of a button on the fork and spoon passing through slots in the blade of the knife. Secured to handles of the fork and spoon are pins which fit in corresponding holes in the knife-handle to keep them in place.

Claim.—First, confining to the blade and handle of any knife a detachable fork or spoon, or both, by the elasticity of the fork or spoon and knife-blade, operating in combination with a button *b*, slot *c*, pin P, and hole *h*, or their equivalents, substantially as and for the object specified.

Second, so applying and attaching a fork to a knife that one of the outer tines shall be flush, or a little more than flush, with the knife-edge, to prevent the latter from cutting when handled or carried in a pocket, substantially as described.

No. 33,731.—J. W. ANDREWS, of Norristown, Pa.—*Improvement in Gun and Bayonet Battery.*—Patent dated November 19, 1861.—Attached to the main frame are two sliding bars, in each of which are fastened a series of bayonets. The bars are connected by rods to eccentrics on the shaft and pins on the wheels, by which means an alternate reciprocating motion is imparted to the two sets of bayonets. Mounted upon the carriage is a number of guns connected with revolving chambers.

Claim.—First, the bars F and G, into which are secured a number of bayonets *g g*, &c., and *j j*, &c, arranged, constructed, and operated in connexion with a carriage, substantially as and for the purpose described.

Second, the combination of a number of guns and bayonets, fixed, arranged, and operated on a carriage, substantially in the manner set forth, and for the purpose described.

No. 33,732.—G. L. BAAR, of Indianapolis, Ind.—*Improved Scroll Saw.*—Patent dated November 19, 1861.—The endless saw runs upon two pulleys, the upper one of which is made adjustable so as to regulate the strain upon the saw. The pulleys are caused to rotate

together by means of an endless band passing over smaller pulleys upon the shaft, and upon three pulleys on the frame in the rear of the saw, so as to be out of the way of the saw room.

Claim.—An endless saw S, in combination with the two pulleys D^1 D^2, each propelled by the same belt, arranged as described.

No. 33,733.—SIMON BROOKS, of Chester, Conn.—*Improvement in Machinery for Bending Hooks and Staples.*—Patent dated November 19, 1861.—Secured to the bed piece is a spindle upon which the hook or staple is bent. Spindles of different sizes are provided to suit the size of the hook required. By means of a clamping lever the blank is held rigidly in position, while the set or tool bends the end around the spindle.

Claim.—The bed piece A, spindle D, hinged arm E, pivoted set or tool F G, and clamping lever H I, when combined, arranged, and operating in the manner and for the purpose described.

No. 33,734.—A. S. CARNER, of Brooklyn, N. Y.—*Improvement in Camp Chests.*—Patent dated November 19, 1861.—The nature of this invention consists of an arrangement of devices whereby a trunk may readily be converted into a table, and vice versa.

Claim.—First, the slides O O′, clasp Q, and plug Z, when the same are arranged in combination with the movable top X, substantially as described.

Second, the slides O O′, movable top X, and folding leaves C C′, when the same are arranged substantially as described, for the purposes set forth.

Third, the slides O O′, movable top X, when the same are arranged in combination with the hinged legs D and the straps F, substantially as described.

Fourth, a trunk with its parts arranged and constructed substantially as and for the purposes specified, it being susceptible of a ready conversion into a table.

No. 33,735.—LEWIS EIKENBERRY, of Philadelphia, Pa.—*Improvement in Steam Slide and Cut-off Valves.*—Patent dated November 19, 1861.—This invention consists in the combination of a slide which is constructed with the width of the face of its jaws extended, with the mechanism which imparts motion to it, and with the ports of the steam cylinder so that the steam shall be admitted at full pressure into the cylinder and cut-off at about one to three-quarters of its movement, without binding up the exhaust to an injurious extent on the opposite end of the cylinder, and then worked expansively during the balance of the effective part of the stroke, without loss of power from the exhaust or loss of power at that end of the cylinder to which the steam was last admitted, during the forward movement of the piston.

Claim.—The described method of adjusting combined working and cut-off valves relatively to the ports of a steam-engine cylinder, in combination with the specified operation of the same, for the purpose set forth.

No. 33,736.—W. H. ELLIOTT, of Plattsburg, N. Y.—*Improvement in Pump for Oil Wells.*—Patent dated November 19, 1861.—In connexion with and below the pump used in pumping oil wells, is an inner well or trap into which the liquid oil and water fall and separate themselves by their specific gravity from the gases which rise with them, and out of which inner well, these liquids are drawn by the suction-pipe of the pump. A balanced floating valve is used for the purpose of closing and opening the pipe through which the gases escape from the well.

Claim.—First, the employment of an inner well or trap, in combination with the pump, as and for the purpose specified.

Second, the employment of floating valve *k*, in combination with the pump, as and for the purpose set forth.

No. 33,737.—R. B. FITTS, of Philadelphia, Pa.—*Improvement in Army Feed and Water Buckets.*—Patent dated November 19, 1861.—This invention is designed as an improvement upon the patent granted September 17, 1861, to the said Fitts, and consists in making the rim of the holder flexible, and attaching to it the rigid bail, so as to keep the mouth of the holder open when the bucket is in use, and to serve as a means of carrying the same.

Claim.—The flexible rim B, rigid bail C, and plates *f f*, the same being constructed and combined together with the flexible holder A, so as to operate together, substantially in the manner described and for the purposes specified.

No. 33,738.—Cancelled.

No. 33,739.—M. LA RUE HARRISON, of Burlington, Iowa.—*Improved Mode of Applying the Bolster in Railroad Car Trucks.*—Patent dated November 19, 1861.—The bolster is supported in swinging stirrups at a distance below the bearings on the top of the springs, by which means the full effect of the elasticity of the springs is obtained and the car rendered more steady.

Claim.—The employment of a swinging bolster H made in one piece, in combination with the pendulous stirrups C C, springs E E, slotted stirrups F F, boxes *c c*, and bolts *b b g g*, all as shown and described, for the purpose set forth.

No. 33,740.—A. HOFFMAN and H. W. LIMEBECK, of Halfday, Ill.—*Improvement in Cultivators.*—Patent dated November 19, 1861.—The seed-box is operated by means of a rod actuated by a cam on the shaft of the driving wheel. A series of teeth are secured in the front part of the machine, and at the rear is a detachable curved harrow. Ploughs are arranged upon the inner and outer longitudinal beams.

Claim.—The seed-box C, cam wheel *k*, lever *f*, harrow *e*, teeth *b b b*, and ploughs *q q* and *w w*, when all are constructed and arranged substantially in the manner and for the purpose set forth.

No. 33,741.—OTIS HOWE, of Cambridgeport, Mass.—*Improved Spring Bed Bottom.*—Patent dated November 19, 1861.—This invention is explained by the claim and engraving.

Claim.—An improved mode of constructing the rocker and applying it to the bedstead or bed frame, viz., making such rocker with one or more legs, and constructing the bedstead or bed frame with one or more conical or flaring sockets to receive, support, and estop such leg or legs, in manner substantially as described, and enable such to vibrate longitudinally of the spring-bearer, and to be raised out of such sockets, substantially as specified.

No. 33,742.—W. L. HUBBELL, of Brooklyn, N. Y.—*Improved Means of Attaching Traces to Carriages.*—Patent dated November 19, 1861.—The eye of the whiffletree is provided with a bolt, which is kept down in position by means of a coiled spring. The trace is attached by raising the bolt and passing the hole in the trace to the narrow part of the eye, the projection of the bolt underneath preventing it from coming off.

Claim.—The cross bolt *c* applied to the eye *a* of the whiffletree, in the manner and for the purposes specified.

No. 33,743.—JUNIUS JUDSON, of Rochester, N. Y.—*Improvement in Governors for Steam Engines.*—Patent dated November 19, 1861.—This invention consists in connecting the arms of the fly-balls directly with a stationary rod from the valve by means of a swivel collar, for the purpose of reducing friction and simplifying the construction.

Claim.—The swivel collar *h* revolving freely on the rod *b* between the fixed collars *j j*, or their equivalents, so as to receive and turn with the ends of the governor-arms *e e*, and thereby obviate excessive friction and destructive wear, substantially as specified.

No. 33,744.—D. S. KIMBALL, of Lowell, Mass.—*Improvement in Carding Engines.*—Patent dated November 19, 1861.—Upon the sides of the frame of the screen are arranged two guards so as to extend up around the edges of the main card cylinder, in order that when such cylinder may be set in motion, the currents of air shall be prevented from escaping sideways or transversely of the screen and be caused to flow forward in uniform streams, whereby the fibres of the wool shall be acted upon uniformly, and be borne forward to the doffer in an even mass.

Claim.—An improved carding machine, having its parts constructed and made to operate together, in manner substantially as set forth.

Also, the application of the guards *c c*, or their equivalents, to the sides of the screen, and so as to operate with the main card cylinder, in manner and for the purpose set forth.

No. 33,745.—THOMAS LEE, of Newark, N. J.—*Improvement in Breech-Loading Fire Arm.*—Patent dated November 19, 1861.—The removal of the spent cartridge after a discharge is effected by the act of opening the breech, the cartridge being seized between arms or levers placed each side of the cartridge and within its end margin. Attached to the breech piece and near its lower sides are two pawls, having at their end a hooked projection travelling in channels in the curved blocking piece. By the movement of the parts the pawls are brought into action, when the breech is thrown open and the spent cartridge is at the same time instantly expelled and thrown some distance from its place.

Claim.—Removing the spent cartridge from its chamber by means of the arms *c c*, pins *e e*, and pawls *a a*, in combination with appliances, substantially such as shown, for opening and closing the breech, all essentially for the purpose and in the manner set forth.

No. 33,746.—ELISHA MATTESON, of Brooklyn, N. Y.—*Improvement in Projectiles for Firearms.*—Patent dated November 19, 1861.—The base of the angular passage through the ball is made in the form of a section of a truncated cone, instead of that of a complete cone, so that a larger central chamber for the entrance of the resisting air shall be formed, and so that there shall be presented a square horizontal surface for the small end of the ramrod to rest against squarely when it is used for forcing the projectile into the gun. The projectile is attached to the ordinary paper cartridge, and the two are held together by means of an India-rubber band which envelops a soft packing disc. As the charge is forced home by the ramrod, it slips through the rubber band, when the latter collapses upon the ramrod and may be drawn out and used again.

Claim.—First, making the base of the angular passage B C C A′ of the projectile in its transverse vertical section in the form of a section of a truncated cone, in the manner and for the purpose described.

Second, a cartridge formed of the improved projectile A B C A′ and the ordinary charged paper or bag case and a rubber band, in the manner and for the purpose described.

No. 33,747.—MORRIS MATTSON, of Boston, Mass.—*Improvement in Enema Syringes.*—Patent dated November 19, 1861.—This invention is explained by the claim and engraving.

Claim.—The connexion, consisting of the perforated screw plug *m* on which the connecting pipe screws, confining the bag between the pipe and the head 5 of the plug, in the manner substantially as described.

No. 33,748.—J. C. and C. N. MAYBERRY, of White Rock, Ill.—*Improvement in Harvesting Machines.*—Patent dated November 19, 1861.—This invention relates to that class of machines in which the team is placed behind the frame of the machine, and an endless apron employed for discharging the cut grain. The object of the invention is to give a more even balance to the machine, and cause it to work with less vibration to equalize the draught, render the cutting device capable of being readily raised and lowered, and enable the discharging apron to be adjusted to suit receiving wagons of different heights.

Claim.—First, the elevated yoke E, connecting the linked rear rail *b* of the balanced frame A, and employed in connexion with the thrusting tongue D, rope F, and pulley *c d*, substantially as and for the purposes set forth.

Second, the endless conveying and elevating apron K, carried at one end in an inclined frame L M, jointed midway of its length in standards *g*, in the manner and for the purpose shown and explained.

No. 33,749.—WM. MOREHOUSE, of Buffalo, N. Y.—*Improvement in Lamps.*—Patent dated November 19, 1861.—This lamp is designed for burning coal oil without a chimney. The wick tube is encompassed with a taper tube, in connexion with which are plates or heaters placed within a suitable case or deflector, the plates or heaters having such a relative position with the wick tube, cone or deflector, and the tube which surrounds the wick tube, that a strong draught will be obtained below the top of the wick tube and the flame supplied with a requisite quantity of air to support proper combustion.

Claim.—The combination of the cylinder or case D, tube C, and plates E F, arranged relatively with the wick tube B and cone or deflector E, to operate as and for the purpose set forth.

No. 33,750.—WM. MOREHOUSE, of Buffalo, N. Y.—*Improvement in Sash Supporters.*—Patent dated November 19, 1861.—Secured within one side of the window frame is a box or shell, in which is a roller formed with a circular groove to receive a clothing of India-rubber to bear against the sash. Under the roller is arranged a clamp or brake, which, when the sash is raised, is made to bear against the roller and retain the sash at any desired height. The pressure of the roller upon the sash is regulated by means of a set-screw, the tapering point of which bears against the rear bevelled face of the clamp.

Claim.—A sash retainer, constructed and operating in the manner and for the purpose set forth.

Also, constructing the bearings *d* of the box E, plane-surfaced, and of a length greater than the diameter of the axle of the wheel B, in the manner and for the purpose set forth.

Also, regulating the pressure of the roller B upon the sash rail *i*, by means of the inclined shoulder brake H and tapered set-screw *n*, in the manner and for the purpose specified.

No. 33,751.—L. H. OLMSTED, of Binghamton, N. Y.—*Improvement in Oilers.*—Patent dated November 19, 1861.—The oil receptacle is made semi-spherical in form, so that it may be stamped, cast, or otherwise made in one piece without any seam, so as to prevent liability to leakage. The cover is made flexible, so that the oil may be expelled by pressure, and the upper end of the tube is provided with a wire to conduct back into the oiler any oil adhering to the exterior of the tube after use.

Claim.—An oiler made with a semi-spherical bottom, without seam, a flexible cover and a conducting wire attached to the extremity of the tube, all as shown and described.

No. 33,752.—H. J. PHILLIPS, of New York, N. Y.—*Improvement in Convertible Overcoat and Tent.*—Patent dated November 19, 1861.—This device is so constructed as to be compactly folded and carried in or on the knapsack with little addition to the weight.

Claim.—A combined tent, overcoat and cape, made as shown and described.

No. 33,753.—CHARLES RAY, of Boston, Mass.—*Improvement in Stirrups.*—Patent dated November 19, 1861.—The object of this invention is to prevent the foot of the rider from catching in the stirrup in case of his falling from the horse.

Claim.—The application to the sides of stirrups of a revolving surface, however arranged, so as to prevent the feet of the rider from catching in the stirrups, in combination with a step or bottom having a fixed and non-rotating surface, and which bottom shall be rigidly attached to the frame of the stirrup, substantially as described.

No. 33,754.—ADDISON M. SAWYER, of Fitchburg, Mass.—*Improvement in Canister Shot for Ordnance.*—Patent dated November 19, 1861.—The canister is strongly constructed, and is provided with one or more holes in its rear end through which sufficient force is communi-

cated by the discharge to start the balls simultaneously with the canister and to drive them to its forward end, thus tending to keep the canister mouth foremost. The balls are placed in the canister with a layer of shavings, or other suitable material, between each layer of balls, to keep them from coming in contact with each other.

Claim.—A canister shot, constructed in the manner substantially as described.

No. 33,755.—THOMAS SCHANKWILER, of Fayette, N. Y.—*Improved Mode of Constructing Horse-Power.*—Patent dated November 19, 1861.—This invention consists in the method of connecting the draught arms or levers with the driving-wheel so as to obviate their liability to break, to economzie power and equalize the draught to the different teams.

Claim.—The arrangement and combination of the levers *c*, draught rods *f*, fulcrum bearing *d*, socket *e*, and connecting rod *g*, substantially in the manner and for the purposes shown and described.

No. 33,756.—W. G. SHERWIN, JAMES MCFARLAND, and CHARLES THIEME, of Cleveland, O.—*Improvement in Breech-loading Ordnance.*—Patent dated November 19, 1861.—The plug which closes the aperture of the breech has in opposite sides of it two cavities of unequal depth and diameter, separated by a projection or partition, through which is screwed a nipple which projects some distance into both cavities, and has two or more sharp points for rupturing the rear end of the cartridge in the act of loading, which is effected by the mere weight of the descending cartridge. The cock or capper inserted through the end of the breech into the barrel has at one end a recess and slotted cavity, and at the other end a knob.

Claim.—First, the arrangement of a nipple H I at the bottom of a cartridge chamber when in position for loading, so that the vent will be automatically closed, substantially as set forth.

Second, in combination with a faucet breech, which requires the charge in a vertical position, as explained, the projecting point or points I of the nipple, for the purpose of opening the cartridge by its own weight in the act of loading.

Third, the cock or capper J J, adapted to perform the several offices of capping, firing, and uncapping the nipple, together with holding the vibratory breech rigidly and exactly to its place while discharging, substantially as set forth.

No. 33,757.—AARON SHUTE, of Flushing, N. Y.—*Improvement in Fire Escapes.*—Patent dated November 19, 1861.—Attached to a balcony or to the building under a window in the upper part of the house is a box containing a chain ladder, one end of which is secured to the building under the window. The box is hinged at the bottom and secured by catches at the upper part, and so connected with a rod that by actuating the latter, the catches will be released and the box be tilted over, dropping the loose end of the chain to the ground.

Claim.—The chain ladder E, when connected to the building and to the tilting box D, and the latter provided with catches or levers *b b*, arranged as described, or in any equivalent way, so as to admit of the releasing of the box D and the liberation of the ladder E when required, and for the purpose set forth.

No. 33,758.—DAVID N. SKILLINGS, of Boston, Mass., assignor to Himself and D. B. FLYNT, of Cambridge, Mass.—*Improvement in Portable Houses.*—Patent dated November 19, 1861.—The boarding of the sides and ends of the house are made in sections and frames, the inner edges of the vertical posts and edges of the cap plates and sills being grooved, so that each frame will fit between any two of the posts. The roof is also made in sections.

Claim.—An improved portable house, having its framing constructed substantially as described, and the sides, ends, and roof constructed in sections, as set forth, and applied to the framing in the manner specified.

No. 33,759.—CHARLES WARD, of Salem, Mass.—*Improved Mode of Securing Knobs to Doors, Drawers, &c.*—Patent dated November 19, 1861.—The knob is secured to the drawer, door, or other article by means of a right and left-hand screw, one end of which passes into the knob and the other into the drawer. The spindle of the screw is provided with a collar and a square shoulder, on which fits a metal plate let into the face of the knob and secured by screws.

Claim.—The described attachment for fastening on knobs or other articles, substantially as specified.

No. 33,760.—S. L. WHETSTONE, of Cincinnati, O.—*Improvement in Locomotives.*—Patent dated November 19, 1861.—The object of this invention, as expressed by the claim, is to obtain an increased amount of tractive power, and at the same time a light rail may be used.

Claim.—The use, in a locomotive, of wheels applied to bear against opposite sides of a rail, in combination with wheels running upon top of the same rail, when the side wheels derive suitable pressure from the weight of the locomotive through a system of levers, or their substantial equivalents, as is fully represented.

No. 33,761.—W. A. WOOD, of Hoosick Falls, N. Y.—*Improvement in Rakes for Harvesters.*—Patent dated November 19, 1861.—The rake stale, which has two joints in it, is

secured to the outer or grain side of the platform, its free end carrying a rake. Upon each corner of the platform frame is a pulley around which an endless belt is caused to move. On the side of the platform next to the main frame is a fence against and by which the gavel is directed as it is moved by the rake towards the delivery point, the gavel being deposited in a position in the rear of the grain side of the main frame and out of the way of the path of the machine on its return swath.

Claim.—First, a jointed rake stale that will, in connexion with an endless travelling belt, traverse the sides of the platform and sweep therefrom and deliver the cut grain, substantially as described.

Second, connecting the jointed rake stale to the outer or grain side of the platform, so that the delivery point for the gavel may be next to, or at, or near the rear of the main frame, substantially as described.

No. 33,762.—GEORGE BRADLEY, of Paterson, N. J., assignor to JACOB S. ROGERS, of the same place.—*Improvement in Carding Engines.*—Patent dated November 19, 1861.—The stripping cylinder is so constructed and operated as to run in contact with the main cylinder and with a proper motion for a sufficient time to strip it and to retain the stripping upon itself, and is then automatically moved out of contact therewith, and is itself stripped or cleaned by suitable mechanism, depositing the strippings in a receptacle apart from the cotton which is being carded. The motion of the stripping cylinder is reversed after leaving the main cylinder, and turned slowly in that direction, thereby submitting its surface to the action of a comb, combined with which is a motion of the stripping cylinder to and from the main cylinder so that the strippings which have adhered to its surface while in contact with the main cylinder, may be removed and deposited in their proper receptacle.

Claim.—First, causing a stripping cylinder C covered with card clothing, or equivalent material, which retains the strippings, to be automatically operated against the main cylinder, so as to strip it during a certain period and then to be separated therefrom and to be in turn stripped or cleaned by suitable mechanism, and to deposit the strippings separate from the fibres which are being carded, substantially in the manner and for the purpose described.

Second, turning the stripping cylinder C slowly backward, or in the reverse direction to that in which it performs its function of a stripper, and thereby subjecting its surface to the action of the clearing comb N, or its equivalent, in combination with a motion of the said stripping cylinder C to and from the main cylinder, substantially as and for the purposes set forth.

No. 33,763.—D. H. CHAMBERLAIN, of West Roxbury, Mass., assignor to Himself and ALEXANDER H. TWOMBLY of Boston, Mass.—*Improvement in Tubes for Surface Condensers.*—Patent dated November 19, 1861.—The tubes of the surface condenser are strengthened to resist the pressure produced by the vacuum, by applying rings to their inner surface at short intervals, so that thin metal may be employed in the construction of the tubes.

Claim.—A surface condenser having its tubes strengthened by rings, as set forth, for the purpose specified.

No. 33,764.—W. E. FROST, of Clinton, Mass., assignor to WASHBURN & MOEN, of Worcester, Mass.—*Improvement in Skirt Wire.*—Patent dated November 19, 1861.—The covering on the wire is braided more openly than usual, so as to admit of the stock or braids being extended over a larger surface of the wire, and also to admit of interstices being between the strands, and using in connexion with the open fabric a size or glazing to fill up the interstices and thereby make a smooth surface.

Claim.—A skirt wire A, provided with an openly braided covering B, when combined with a suitable size or glazing *b*, as set forth.

No. 33,765.—JOHN W. LANE, of Newton, N. J., assignor to W. & B. DOUGLAS, of Middletown, Conn.—*Improvement in Pumps.*—Patent dated November 19, 1861.—To the induction pipe of a pump near its junction with the pump cylinder is attached a water chamber or reservoir, which shall be sufficiently large and in such close proximity to the pump as to supply or fill the latter when the piston is operated, and insure the perfect action of the piston almost immediately, even if the packing be quite dry.

Claim.—The water-chamber or reservoir C, in combination with the induction pipe formed of two parts B and B, so arranged and applied to the pump to operate as and for the purpose set forth.

No. 33,766.—E. C. TOWNSEND, assignor to SMITH & BROWNER, of New York, N. Y.—*Improvement in Neck-Ties.*—Patent dated November 19, 1861.—The neck-tie is made of paper with an internal lining to the band to give it tenacity, one end of the band being passed through a loop and fastened.

Claim.—A neck tie made of paper and adapted to the neck of the wearer, substantially in the manner described.

No. 33,767.—CHRISTIAN WEITMAN, assignor to Himself, H. W. GLYNN, and A. HAGEMAN, of Independence, Iowa.—*Improved Device for Shrinking Tires.*—Patent dated Novem-

ber 19, 1861.—A metal plate or wooden block covered with metal is provided with a series of holes made in semicircular concentric rows for the reception of pins to admit of adjustment to the tire, combined with which is a chain and lever by which the tire is compressed upon the wheel.

Claim.—The plate A, provided with a series of semicircular concentric holes *a* and pins *b*, in combination with the chain B and lever C, all arranged substantially as and for the purpose set forth.

No. 33,768.—G. F. WILSON, of Providence, R. I.—*Improvement in Army Cooking Wagons.*—Patent dated November 19, 1861.—This invention consists in combining with an army wagon the oven patented to Blodget & Sweet, December 5, 1854, and, in combination with the aboye, the employment of a boiling and broiling apparatus.

Claim.—First, combining the above-mentioned oven with an army wagon or other vehicle, substantially as described.

Second, the combination of the said oven or baker with either the boiler or broiling apparatus, or both, and this combination with the wagon, substantially as described, for the purpose of making a portable army cooking stove.

No. 33,769.—ARNOLD HAMILTON, of Broad Brook, Conn.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated November 19, 1861.—The sliding charge-chamber is fitted in the breech and secured to the back end of the barrel, so as to move up and down freely by means of a rack and sector and a lever guard, which causes the chamber to be lowered so as to bring its hollow cylinder into a line with the charger formed in the breech. The rear end of the barrel is made conical in shape, so as to adapt it to the slide-chamber and secure the compression of the ball to the bore and rifle of the gun.

Claim.—The combination and arrangement of the sliding charge-chamber C with the conical shaped chamber of the barrel A at its breech, and the lever-toothed sector F E, substantially as and for the purpose described.

No. 33,770.—CHARLES H. ALSOP, of Middletown, Conn.—*Improvement in Revolving Fire-Arms.*—Patent dated November 26, 1861.—The object of this invention is to insure a tight joint between the chambered breech and the fixed barrel, the breech-pin being pressed backward against the recoil shield by the pressure of the gases against its front end, and thus the wear of the recoil pin is compensated or and the recoil in a great degree counteracted. Concave recesses are cut in that portion of each breech-pin which projects in the rear of the cylinder to fit the periphery of the adjacent breech pin, by which means the several breech pins are locked together and prevented from turning.

Claim.—First, in combination with a breech pin applied as described, the shoulder *i*, so formed in the chamber by counter-boring that the force of the explosion acting upon it will tend to press forward the cylinder or chambered breech into contact with the barrel, while the force acting against the breech-pin will tend to press it back against the recoil shield or its equivalent, substantially as described

Second, in a revolver or many-chambered fire-arm, forming recesses *f f* in the sides of the breech-pins, to fit to the peripheries of the adjacent ones, substantially as and for the purpose specified.

No. 33,771.—W. H. ANDREWS, of New Haven, Conn.—*Improvement in Variable Cams.*—Patent dated November 26, 1861.—Upon the exterior of the hub is a screw thread, on one end of which is formed a flange. To the exterior of the flange, and pivoted thereto by a pin, is fitted loosely a ring. Between the hub and ring and within a slot is a spring kept in place by a pin, the spring acting to throw the ring into an oblique position relative to the plane of revolution of the hub. A loose collar or nut is made to screw upon the hub, and forms a resting place for the side of the loose ring. By screwing the collar towards or from the flange, the throw of the cam can be varied at pleasure.

Claim.—The variable cam, composed of a hub A, ring B, spring D, and nut or adjustable collar C, the whole combined and operating substantially as specified.

No. 33,772.—ACHILLE BERTHOUD, of New York, N. Y.—*Improvement in Apparatus for Advertising.*—Patent dated November 26, 1861.—This invention relates to a method of advertising in which a travelling band is used, upon which the notices are placed. The apparatus is enclosed in a case, the front side of which is divided into distinct sections by frame-work. An intermittent motion is given to the band, the degree of which corresponds with a section of the frame-work, the advertisement being made to remain in one position a short time and then quickly moved on.

Claim.—Giving to the band an intermittent motion of alternate advancing and resting, as described.

No. 33,773.—MILLS L. CALLENDER, of New York, N. Y.—*Improvement in Vapor Lamps.*—Patent dated November 26, 1861.—This invention consists in a method of heating metallic surfaces to rarify a column or body of air so as to produce a draught of air into and around the illuminating flame without the aid of a chimney.

Claim.—The relative arrangement of the two burning wicks *d d* and *c c*, by which the wick *d d* is set to burn higher than the wick *c c*, and two or more wicks can be simultaneously raised or depressed in by one ratchet wheel or one wick tube, in the manner and for the purpose specified.

No. 33,774.—A. C. CHAMBERLAIN, of Newport, R. I.—*Improved Method of Growing Plants and Fruits.*—Patent dated November 26, 1861.—The object of this invention is to grow any desirable variety or kind of fruit or flowers in a light wire basket, to be placed in the green-house or parlor. A filling tube is provided for introducing liquid manure to the roots of the plants.

Claim.—The construction of a basket or vase for growing fruits and plants, with a perforated plate C to receive and hold the plant, and a receptacle below the plate for holding the substances from which the plant is to derive nutriment, substantially as shown and described.

Also, the employment of a filling tube D, with said plate and basket, as and for the purposes set forth.

No. 34,775.—A. S. DAVIS, of Boston, Mass.—*Mode of Attaching Blocks to Belts of Printing Apparatus.*—Patent dated November 26, 1861.—This invention relates to a method of attaching engraved wooden blocks to an endless belt which is used in a machine for printing addresses on newspapers, and for which a patent was granted to R. W. and D. Davis, September 6, 1859. The blocks are attached to the endless belt by means of straps or loops, so that the blocks may be moved along and any of them readily detached when necessary.

Claim.—The attaching of engraved or indented wooden blocks *a x* to their endless belt G, by means of straps or loops *b x*, substantially as shown and described, when said blocks and belt are used in a machine for printing addresses on newspapers, as set forth.

No. 33,776.—I. H. DENNIS, of Louisville, Ky.—*Improvement in Equalizing Beams and Levers in Railroad Cars.*—Patent dated November 26, 1861.—This invention is designed more especially for street railway cars, which are not usually provided with trucks. Passing longitudinaly through the pedestals in which the axle-boxes are placed are beams so shaped as to admit of the interposition of rubber, steel, or other suitable springs, between their ends and the longitudinal timbers, for the purpose of equally distributing the weight on the car. These longitudinal beams are connected together by two equanzing beams, each end of the latter being jointed to the inner ends of the distributing beams, in such a manner as to allow them to vibrate freely, by which means the wheels are kept down upon rails of uneven or irregular surface.

Claim.—The equalizing beams H, connecting the distributing beams F F, and operating in combination therewith, in the manner and for the purposes shown and explained.

No. 33,777.—BRIDGE FRODSHAM, of New York, N. Y.—*Improved Material for Mattresses, Cushions, &c.*—Patent dated November 26, 1861.—This invention consists in preparing the cork by cutting it into fine fibres or strips for the purpose of imparting a greater and more even elasticity to the cushion, &c., than is obtained by cork cuttings and shavings.

Claim.—As a new article of manufacture, forming an elastic material for cushions, &c., the fine polygonal strips of cork, formed as specified.

No. 33,778.—W. O. GROVER, of Boston, Mass.—*Improvement in Sewing Machines.*—Patent dated November 26, 1861.—This invention, the nature of which will be seen from the claim, does not admit of a brief description.

Claim.—First, the combination of a supporting table and an eye-pointed piercing needle, with a lower needle having motions in six directions, substantially such as described, and for the purposes specified, the combination being substantially as set forth.

Second, imparting motions in six directions to a lower needle by means of an inclined crank-pin, substantially in the manner specified.

Lastly, in combination with a tension apparatus, a check-spring and nippers, when they are relatively arranged and combined, substantially as described, so as to operate substantially in the manner and to produce the effects set forth.

No. 33,779.—S. C. GRANGER, of Chicago, Ill.—*Improvement in preparing Mash for Brewing.*—Patent dated November 26, 1861.—This invention is explained by the claim.

Claim.—The combination of common malt, crushed raw Indian corn, or Indian corn meal, and pulverized or granulated carbonized "zea major" and water in the mash for brewing ale, beer, and porter, substantially and for the purposes as described.

No. 33,780.—KENDALL GIBBS, of Berwick, Me.—*Improvement in Cattle Fastening.*—Patent dated November 26, 1861.—The object of this invention is to prevent the twisting of the rope and breaking of the tie. The rope is secured to the ring that plays upon the upright post, by means of a swivel joint, that admits of a rope being turned in any direction.

Claim.—The swivel shackle and attached ring, or their equivalents, in combination with the neck rope and button, substantially as described.

No. 33,781.—R. K. HAWLEY and W. W. MAUGHLIN, of Baltimore, Md.—*Improvement in Portable Wooden Tents.*—Patent dated November 26, 1861.—The tent is so constructed as to be readily put up and taken down without the use of screws, nails, or other permanent fastening, and admits of any desired extension by multiplying, without altering the form or dimension of the parts.

Claim.—The construction of a wooden tent, substantially in the manner and for the purpose described, the same consisting in the combination of the gables, constructed and united as shown, with the side pieces and ridge pole, to receive a roof, in the manner specified and represented.

No. 33,782.—R. P. HENRY and G. W. FOX, of Akron, O.—*Improvement in Tombstones.*—Patent dated November 26, 1861.—Secured to a tombstone, by means of a lock, is a shield, the lower part of which is kept in place by means of a catch. Underneath the shield are chambers, in which may be placed a likeness or records of the deceased person.

Claim.—The shield C, lock M, and catch J, in combination with the stone A, when arranged and applied to the purposes set forth.

No. 33,783.—J. G. HOLT, of Chicago, Ill.—*Improvement in Casting Seamless Screw Nuts.*—Patent dated November 26, 1861.—An undivided cylinder of sand is built up on a support, and on the circumference of this cylinder is formed an unbroken or continuous screw-thread. This core is placed in a sand mould, formed by a solid nut pattern. The molten metal is then run in between the core and the mould, by which is formed, from a sand core, a cast nut with an unbroken thread on its inner circumference.

Claim.—First, a seamless screw-threaded sand core, the seamless thread being on the outer circumference of the sand core, for the purpose set forth.

Second, the production of nuts and other tubular articles, with a seamless screw-thread on their inner circumference, from seamless screw-threaded sand cores, substantially as set forth.

No. 33,784.—R. W. HUSTON, of Providence, R. I.—*Improvement in Stove-Cover Lifters.*—Patent dated November 26, 1861.—This holder consists of a short metal bar, having at one end two claws and at the other end three claws, for the purpose of lifting heated plates, stove-covers, &c.

Claim.—The described article of manufacture, constructed and used in the manner and for the purpose specified.

No. 33,785.—ANTHONE ISKE, of Lancaster, Pa.—*Improvement in Fire Escape Ladders.*—Patent dated November 26, 1861.—A series of short ladders is so constructed and suspended between the sides of extension elevators as to be capable of being folded in a small compass and sustained on a carriage of ordinary length, and also of being elevated in a narrow alley perpendicularly, and then inclined at any desired angle against a building, with its platform on the upper end.

Claim.—First, the independent ladders, five or more in number, suspended by their upper ends, on pivots, between the elevating cross levers, one above the other, successively narrowed, with their stay catches x x, in combination with the rope v', attached in the manner and for the purpose specified.

Second, the truss or supporting frame B, with its jointed side pieces E F, when the same is held on pivots o, between or inside of the frame A, of the hose carriage, with the reel Y, operated by means of the windlass D, and by straps d, or their equivalent, for the purpose of inclining the ladders, in the manner and for the purpose specified.

No. 33,786.—Cancelled.

No. 33,787.—H. F. MANN, of Laporte, Ind.—*Improvement in Breech-Loading Ordnance.*—Patent dated November 26, 1861.—A stirrup passes from the trunnions of the barrel to and around the open breech, and has an open slot cut in its inner curved portion for the reception of a sliding breech piece. Passing through the rear curved end of the stirrup, and binding against the breech piece, is a screw, which acts to force the breech piece into the bore of the barrel at the rear end and secure a gas-tight joint.

Claim.—First, the combination of the oscillating cannon A, slotted bracket E, and crank shaft F, the whole arranged and operating in the manner and for the purpose described.

Second, the combination of the longitudinally-sliding breech piece C, with or without a sharp edge, stirrup B, screw D, or its equivalent, and oscillating cannon A, the whole arranged and operating substantially in the manner and for the purpose described.

No. 33,788.—S. L. MARSDEN, of Westville, Conn., and S. R. BURRELL, of New York, N. Y.—*Improvement in Candlesticks.*—Patent dated November 26, 1861.—A metal socket for holding a candle is provided with a spike, or screw, or both combined, at its lower end, so as to be readily secured to the frame of a window, the centre pole of a tent, or any wood-work.

Claim.—A portable candlestick, formed of a metal socket A, and a spike or screw B, or a spike and screw combined, substantially as described.

No 33,789.—A. R. MILLER, of Attica, N. Y.—*Improvement in Carriage Springs.*—Patent dated November 26, 1861.—This invention consists in employing two bearings, both on the upper and lower side of an elliptic spring, near its ends, instead of a single central bearing, as usual, for the purpose of attaining a more gentle and easy motion.

Claim.—Constructing elliptic springs with double bearings *b b*, and leaving the centre thereof detached from the axle and spring bar, substantially in the manner and for the purposes shown and described.

No. 33,790.—JOHN M. MULLER, of Richmondville, N. Y.—*Improved Process of Tanning.* Patent dated November 26, 1861.—This invention is explained by the claim.

Claim.—The employment or use, for the tanning of leather, of tansey, in combination with hemlock or oak bark, substantially as set forth.

No. 33,791.—JOHN MULVANEY, of New York, N. Y.—*Improvement in Lamps.*—Patent dated November 26, 1861.—The object of this invention is to convert an ordinary camphene lamp into a coal-oil lamp. The cone used in the camphene lamp is removed, and perforated wire-cloth disks are provided in the wick tube and air chamber for equalizing the supply of air, while the globe portion of the glass chimney serves to retain a body of air around the flame.

Claim.—The employment or use of perforated or wire-cloth disks *a b* in the tube C and air or draught chamber B of a camphene lamp, when said disks are used in combination with the glass chimneys I provided with a lower globe portion *c*, and without the ordinary draught cone J, which encompasses the upper part of tube O, substantially as and for the purpose set forth.

No. 33,792.—O. H. P. ORENDORFF, of Bloomington, Ill.—*Improvement in Portable Field Fences.*—Patent dated November 26, 1861.—This invention is explained by the claim and engraving.

Claim.—Making the panels of a portable fence in such a way that the end ports thereof shall set back from the ends of the rails, leaving the ends of said rails projecting past the posts a short distance, thereby forming an angle into which the end of the adjoining panel may enter, then uniting the panels by inserting the end of one panel into the angle formed as described, and fastening the panels when thus united by hooks and staples attached to the same, the whole being constructed and arranged as and for the purpose described.

No. 33,793.—C. E. PAXSON, of Salem, O.—*Improvement in Corn Ploughs.*—Patent dated November 26, 1861.—This implement is designed for cultivating between the rows of corn. The parts are so constructed as to admit of an adjustment by which the inplement is brought under complete control of the operator, and adapted to follow and cultivate opposite sides of two straight or crooked rows with facility at one operation.

Claim.—The fenders B B, hinged forked bars C C, hinged handles D D, with the guard F and draught-beam A, when combined, arranged, and operating in the manner described.

No. 33,794.—B. D. PEASE, of Madison, Pa.—*Improved Butter Scraper.*—Patent dated November 26, 1861.—This invention consists in the use of a horizontal rotating bowl in connexion with a rotary beater arranged for joint action, for the purpose of separating buttermilk and other foreign liquids from the butter; the parts being so arranged as to be readily disconnected for washing and cleaning.

Claim.—The combination of a rotating bowl B with a rotary beater E, formed of radial wings or blades *g*, the outer edges of which are parallel with the inclined or concave bottom *i* of the bowl, as and for the purpose set forth.

Also, attaching the guard or fender G to the device by means of eyes *m m* fitted on vertical rods *n n* at the upper part of the upright *c'*, in connexion with the key E', for securing the journal of the shaft D in its bearing in upright *c'*, whereby the guard or fender-shaft D and beater E may be readily detached when necessary for cleaning purposes.

No. 33,795.—J. D. POTTS, of Pittsburg, Pa.—*Improvement in Retrackers for Railroad Cars.*—Patent dated November 26, 1861.—This invention has for its object the replacing of the wheels of railroad cars or engines upon the track from which they may have been accidentally displaced, by means of a metal block having an inclined upper surface, and provided with pointed projections underneath for securing the block in position.

Claim.—First, the construction of the adjustable track or retracker, inclined and resting on and secured to a horizontal base, substantially as described, to operate in the manner and for the purposes set forth.

Second, the device of points on the under side of this base whereby the track can be secured in any position desired, by forcing said points into the ties or other wooden support of the rails, either by bringing on the adjustable track the weight of the car or engine to be put on, or by other means.

Third, in retrackers constructed substantially as described, the combination of inclines and levels, whereby, when the wheels are brought thereon, they are so moved that the wheel lying

...ly outside the rails has its flange first lifted above the rails of the road and then gradually ...red so that it touches said rail; and that the wheel lying between the rails has its tread ...d above the rail of the road and then gradually lowered on to said rail, and by the action ...s own gravity, guided by the incline, is forced towards said rail, thus bringing its own ... the tread of the opposite wheel into their proper positions on the track, and placing the ... wheels as nearly simultaneously as possible on their proper rails.

Fourth, the arrangement whereby the flanges of the wheels are guided by coming against ... sides of the retrackers to the track on which they are to be placed.

Fifth, the lip which, by projecting over the rail of the road, prevents the flange of the wheel ... going between said rail and the adjustable track.

Sixth, the arrangement whereby each of the two adjustable tracks, constituting a set, is ...nged so that it can be used for either wheels between the rails as is required.

Seventh, the devices whereby the incline and base are united, as shown.

No. 33,796.—A. D. PUTTER, of Somerville, Mass.—*Improvement in Soda Fountains.*—Patent dated November 26, 1861.—The stand is divided into a number of compartments for ...aining the different kinds of sirup, and surrounding an ice compartment in the centre. ... water from the ice as it melts runs through a pipe into the forward end of a hollow arm, ...ch forms a trough within which lie the pipes that convey the sirups and soda to the draught-...k, by which means the pipes and their contents are kept cool. By means of a force pump ... is forced into the soda compartments, each of which communicates with the other by means ... small openings near their upper ends, and the sirup is consequently ejected.

Claim.—Passing the pipes which convey the soda and sirups to the draught-cock within ... trough F, where they are cooled by the water from the melting ice, as set forth.

Second, the arrangement within a single draught-stand of the compartments B C and D, ... in contiguity with the central cooler, communicating with each other by the air passages ...nd closed by tight fitting plugs *z*, whereby, while the sirups are kept separate, they are all ...cted by the operation of the same force pump, as set forth.

No. 33,797.—W. F. QUINBY, of Stanton, Del.—*Improved Apparatus for Navigating the Air.*—Patent dated November 26, 1861.—The oscillating wings are composed each of an ...long frame of wood or other suitable material fitted with valve-like flaps made of light ...ooden frames, with oiled silk stretched upon them. These wings are attached to a shaft ...rojecting through and from each side of the car. A screw propeller at one end of the car is ...ached to a longitudinal shaft, to be driven by a small steam engine or other suitable power. ...bove the car are arranged two spiral-bladed wheels for raising and sustaining the machine, ... blades inclining in opposite directions, motion being imparted to them by means of up-...ht shafts geared to the main longitudinal shaft.

Claim.—First, the employment, in combination with the boat-like car, of oscillating wings ... *d*, constructed and applied to operate substantially as and for the purpose set forth.

Second, the combination of the wings A *d d*, the screw-propeller C, and the spiral-bladed ...heels I I', the whole operating together, substantially as and for the purpose specified.

No. 33,798.—J. W. SHIPMAN, of Springfield Centre, N. Y.—*Improvement in Presses for Hops, Hay, &c.*—Patent dated November 26, 1861.—To the outer part of each box F, through ...hich the rack bars pass, is fitted a shaft on which are placed cams having reverse positions, ...hich operate in connexion with toggles acting as pawls upon the rack, and cause the bottom ... the press-box to ascend and compress the material within the box.

Claim.—The combination of the cam-piece and socket H', and toggles I I, with the box F, ...inged rack-bar E, and bars D D, as shown and described.

No. 33,799.—PHILANDER SHAW, of Boston, Mass.—*Improvement in Hot-air Engines.*—Patent dated November 26, 1861.—This invention does not admit of a brief description.

Claim.—First, the combined arrangement in a caloric engine, operating substantially as ...hown and described, of the cylinders, pistons, reservoir, and furnace: the cylinders and ...heir accessories acting together to rotate one shaft, and the cylinders being located partly ...within and partly without the reservoir which contains a supply of compressed and heated ...air, and a furnace which heats the said supply, which, with the gaseous products of combus-...tion, passes through the engine.

Second, the combination of the finished or upper part of the cylinder, with its head, piston, ...and trunk therewith connected, all operating together, substantially as described, and with ...inlet and outlet valves, and suitable packing round the said trunk, to form an annular air ...pump.

Third, the chamber or groove around the cylinder, arranged and operating substantially as ...specified, at or near where the lower part of the piston comes at the termination of its down-...ward movement.

Fourth, the isolated oil trough within the chamber or groove around and within the cylin-...der, for the specified purpose.

Fifth, the inwardly projecting flange *s*, arranged and operating substantially as shown and ...described.

Sixth, admitting into the cylinder comparatively pure and cool air, from a reservoir in which it is constantly maintained compressed, at the place and times and by suitable valve gearing, substantially as and for the purposes specified.

No. 33,800.—Cancelled.

No. 33,801.—J. H. SHOTWELL, of Rahway, N. J.—*Improvement in Air-heating Apparatus for Engine Furnaces.*—Patent dated November 26, 1861.—This invention consists in connecting the exhaust passages of the steam cylinder with a heater which is composed of a series of radiators. The exhaust steam from the cylinder circulating in these radiators, throws out its heat and raises the temperature of the air passing through their radiating surfaces to supply the fire to a high temperature suitable for perfect combustion, the object being to save the greater portion of the heat usually lost after passing through the cylinder by being thrown into the atmosphere or condenser.

Claim.—The combination of the steam passages *e*, with air passages *f*, and water passages *g*, combined, arranged and operating in the manner and for the purposes set forth.

No. 33,802.—HENRY SIDLE, of Dillsburg, Pa.—*Improvement in Churns.*—Patent dated November 26, 1861.—This invention consists in combining the upright cleats or fillets attached to the inner sides of the cream-chamber with two upright revolving dashers moving in opposite directions, and provided with teeth so arranged on each dasher as to pass between those on the other.

Claim.—The combination of the fillets or cleats *f*, with the dashers I and G, when the whole are arranged and constructed to operate in the manner and for the purposes described.

No. 33,803.—JOSEPH STEWART, of San Francisco, Cal.—*Improvement in Manœuvring Heavy Guns.*—Patent dated November 26, 1861.—This invention consists of a wheel or shaft applied to the rear part of the inclined chassis or frame, with a rope attached to the gun carriage upon the chassis and connecting with the shaft, by means of which a heavy gun may easily be drawn from the battery into which the gun runs by its own weight upon the inclined frame.

Claim.—The combination of shaft S, and rope or chain D, with the inclined chassis A and gun carriage B, substantially as described, and for the purposes and uses as set forth.

No. 33,804.—J. A. STRONG, of Hyde Park, Vt.—*Improved Self-waiting Table.*—Patent dated November 26, 1861.—The revolving part of the table is made annular, and is so constructed as to leave a stationary portion in the centre of the table, to support dishes or ornaments not required to be passed round.

Claim.—Providing a self-waiting table B G D, with a stationary central part C, adapted to support dishes, lamps, or the like, and supported by a spindle or neck of less diameter serving to guide and retain the annular revolving part D, substantially as and for the purpose set forth.

No. 33,805.—ROLLIN WHITE, of Davenport, Iowa.—*Improvement in Cartridges.*—Patent dated November 26, 1861.—The case of the cartridge is constructed of two or more pieces of metal movable longitudinally in relation to each other, so that when the charge is fired one portion may be driven by the force of the explosion forward against the barrel or fixed portion thereof, and the other portion backward against the breech, to prevent the escape of the gas. The second and third claims explain themselves.

Claim.—First, the construction of the case of a cartridge of two or more pieces of metal movable longitudinally relatively to each other, substantially as and for the purpose specified.

Second, so constructing the cap or pellet *g*, containing the percussion priming, and applying the same to the base of the cartridge, that it will be caused to operate as a valve to close the vent thereof by the force of the explosion of the charge.

Third, fitting the percussion cap or pellet *g* to a shoulder *i*, formed around the vent in the base of the cartridge case, substantially as described, for the purpose of a firm bearing, to support the said cap or pellet against the blow of the hammer, and so insuring the explosion of the priming.

No. 33,806.—J. W. WHITTIER, of Cambridge, Mass.—*Improvement in Fastening Window Blinds.*—Patent dated November 26, 1861.—This invention consists of a blind rest and fastener, so constructed as to form a support to the blind and prevent its sagging. The blind is detached and thrown from its fastening by means of levers.

Claim.—The levers B and D, the notched rest or support A, and the plate or catch A, constructed, combined, and arranged as and for the purpose above set forth.

No. 33,807.—A. J. WILEY, of South Attleborough, Mass.—*Improvement in Making Joint Wire or Stock for Jewelry.*—Patent dated November 26, 1861.—Instead of using hollow wire, as usual, one edge of a flat strip of metal is rolled up in the form of a tube, the edge so rolled up meeting the flat portion of the strip, to which it is united by soldering.

Claim.—The making of joint wire or joint stock from one piece of metal, as described.

Also, making the said joint wire or joint stock, substantially in the manner shown and described.

No. 33,808.—I. F. WILLIAMS, of New York, N. Y.—*Improved Machine for Applying Flocks to Felt Rubber Goods.*—Patent dated November 26, 1861.—The gumming table, which is inclined, is combined with a self-adjusting distributing knife, so that when the solution of gum is applied to the surface of the fabric the knife edge will cause it to flow evenly downwards and laterally over the surface, to prepare it for the application of the flock. With the revolving flock duster and case surrounding it, is combined a smut collector, so as to prevent the gummed surface of the cloth being smutched, which tends to gather the flock in masses at the front sides of the duster case and cause an uneven surface. The revolving flock or cloth beaters are provided with swinging arms or beaters, so as to beat the under side of the cloth by a sudden blow and cause the flock to become more thoroughly set in the gum.

Claim.—First, the arrangement of the gumming table so as to be an incline plane, as described, in combination with a self-adjustable gum distributor, for the purposes set forth.

Second, the use of throat F and smut collector G, or equivalent devices, in the sifter case, as a method of preventing masses of falling flock from smutting the cloth, substantially as described.

Third, the use of swinging arms or beaters *h*3, in combination with the revolving beaters H, substantially as described, and for the purposes set forth.

Fourth, the use of the cloth tension roller I, in combination with the carrying roller K at the back end of the machine, arranged on a line below the revolving beaters, while the roller I is arranged on a line above the gumming table, so as to support the cloth on these two points, and thus prevent the blows of the beaters drawing or jerking the cloth over the surface of the gumming table.

Fifth, the combination of the finishing brush J with the revolving beaters, substantially as described.

No. 33,809.—S. D. WOODBURY, of Lynn, Mass.—*Improvement in Elastic Carriage Wheels.*—Patent dated November 26, 1861.—This invention is explained by the claim.

Claim.—Rendering a carriage wheel elastic by making the felly in two concentric parts F and *f*, and interposing a belt or layer of India-rubber or other elastic material R, substantially as described, and for the objects specified.

No. 33,810.—G. F. BLAKE, of Medford, Mass., assignor to Himself and PETER HUBBELL, of Charlestown, Mass.—*Improvement in Machines for Pulverizing and Cleaning Clay.*—Patent dated November 26, 1861.—In the upper chamber is arranged a plunger or wipe, to which a reciprocating movement is given by means of a series of levers and connecting rods, and which serves to press the clay against and through the revolving grate into the middle chamber. The revolving grate consists of four circular discs and a number of circular knives arranged upon a shaft. Above the revolving grate is secured a rod, supported upon which are a series of fingers, which pass between the circular knives and serve to remove from them the adhering clay.

Claim.—First, in combination with a machine for cleaning and pulverizing clay, the reciprocating wipe or plunger W, constructed and operating substantially as described.

Second, the revolving grate, constructed and operating as described.

Third, the stationary fingers *w*, constructed, arranged, and operating as set forth.

No. 33,811.—S. E. BOLLES, of Mattapoisett, Mass., assignor to Himself and THOMAS ELLIS, of Rochester, Mass.—*Improvement in Carriage-pole Supporter.*—Patent dated November 26, 1861.—This invention consists of a breast bar, which sustains the carriage pole, to the rear of which bar are attached two pairs of short thills, supported by means of chains passing over the saddle, for the purpose of supporting the weight of the carriage pole upon the backs instead of the necks of the horses.

Claim.—An improved carriage-pole supporter, having its several parts constructed and arranged in relation to each other, and so as to operate together, substantially as shown and described.

No. 33,812.—R. G. HOLMES, of Worcester, Mass., assignor to Himself and JONATHAN LUTHER, of the same place.—*Improved Clothes Washer and Wringer.*—Patent dated November 26, 1861.—The parts are so arranged that by adjusting the screw, the pressure of the rollers may be graduated as desired, while the India-rubber springs admit of the upper roller yielding to suit the varying thicknesses of the cloth passing between the rollers.

Claim.—The arrangement of the guides J with the roller slides H, rollers G, springs I, and bar K, as shown and described.

No. 33,813.—WILLIAM MCCORD, of Sing Sing, N. Y., and EDMUND MAHER, of New York, N. Y., assignor to WILLIAM MCCORD, aforesaid.—*Improvement in Repeating Ordnance, &c.*—Patent dated November 26, 1861.—This invention consists in a construction and

arrangement of parts by which peculiarly formed metallic cartridge chambers charged with powder and ball, are successively and at regular intervals dropped from a hopper opposite to, and held tightly in contact with, a gun barrel of corresponding calibre, secured to a stock, and after being fired, discharged from below, while the necessary movements are being made for the reception from the hopper of the next loaded cartridge chambers in succession, in such a manner as to keep up a constant firing of the cartridge chambers by simply turning a crank.

Claim.—First, embracing and holding the cartridge chambers O opposite the gun barrel B by means of the oscillating and reciprocating jaws C' D, constructed, combined, arranged, and operating as described.

Second, the employment of the bars L and segment of a cog wheel M on the oscillating jaw C' and slide N, with cogged rack on its lower surface, and a ridge on its upper one, for throwing off from said jaw C' the exploded cartridge chambers, and admitting loaded ones singly from the hopper, as set forth.

Third, the peculiar form of the opening or space D3 in the reciprocating jaw piece D, in connexion with the crank E', by which the necessary stoppage is given the said jaw piece at the end of every reciprocal throw of the same, as fully set forth.

Fourth, covering the nipple ends of the cartridge chambers with a cap P, having a headed or valve pin P' working loosely in an opening immediately opposite the percussion cap on the nipple, substantially in the manner and for the purpose set forth.

No. 33,814.—J. D. OWEN, of Carlinville, Ill., assignor to Himself, E. L. OWEN, and G. W. BARNETT, of same place.—*Improvement in Post-hole Excavators.*—Patent dated November 26, 1861.—The metal cylinder is designed to be forced into the earth to the depth required for the reception of the post, and is then withdrawn with the enclosed soil. The earth is removed from the cylinder by striking on a rod fitted into a follower within the cylinder.

Claim.—The combination of the cylinder *a*, the follower D, and the rod *c*, when constructed and arranged substantially as described, for the purpose of excavating holes for posts.

No. 33,815.—R. H. PECK, of Wolcott, Vt., assignor to Himself and E. GIFFORD, of Cady's Falls, Vt.—*Improved Churn.*—Patent dated November 26, 1861.—The interior of the tub is provided with a frame composed of uprights and cross bars, for preventing a rotary motion of the cream. The tub is placed within a frame, to which is secured the gearing for imparting motion to the dasher.

Claim.—The combination and arrangement of the frame A adapted to receive the tub with its frame-work C, the crank shaft H, and its gear wheel G mounted thereon, the tub B, the upright revolving dasher E *c*, with its gear wheel F, the cross piece *a*, and the hanged cap I, the whole operating together in the manner and for the purpose described.

No. 33,816.—FRANCIS A. PRATT, of Hartford, Conn., assignor to G. S. LINCOLN & CO., of the same place.—*Improvement in Stopping and Changing Motion.*—Patent dated November 26, 1861.—This invention consists in the construction of angular-shaped lever clamps, having arms projecting from their fulcrum pins nearly at a right angle with the shaft or the wedge collar on which they are arranged, and the outer ends of which arms are made to operate upon the inner surface of the loose pulley rim.

Claim.—Adapting the action of the levers *c c'* to the rim of a pulley D, in combination with the wedge collar *l*, substantially in the manner as and for the purpose described.

No. 33,817.—S. D. TUCKER, of Troy, N. Y., assignor to C. S. SILL, of the same place.—*Improvement in Cording Guides for Sewing Machines.*—Patent dated November 26, 1861.—This invention consists of a device for producing various kinds of work relating to folding and introducing a cord in the fold by means of the different combinations of parts of which the sewing guide consists.

Claim.—First, the arrangement of the lower outside guide F with the bending shell A, core B, and two inside guides C D, as and for the purpose specified and shown.

Second, the arrangement of the cord-guiding aperture *c* with the bending shell A, core B, inside guides C D, and lower outside guide F, as and for the purpose specified and shown.

Third, the arrangement of the upper outside guides G with the bending shell A, core B, and two inside guides C D, as and for the purpose specified and shown.

Fourth, the arrangement of the core guide *e* with the bending shell A, core B, inside guides C D, and upper outside guide G, as and for the purpose specified and shown.

Fifth, the arrangement of the two outside guides F G with the folding shell A, core B, and two inside guides C D, as and for the purpose specified and shown.

Sixth, the arrangement of the cord-guiding opening *e* with the bending shell A, core B, two inside guides C D, and two outside guides F G, substantially as and for the purpose specified and shown.

Seventh, the arrangement of the cloth-passage *h* in the upper side of the folding shell A, as and for the purpose specified and shown.

No. 33,818.—DAVID BISSELL, of Detroit, Mich.—*Improvement in Machines for Turning Boot Legs.*—Patent dated December 3, 1861.—Placed upon a frame are two racks, which are made to move in opposite directions by means of a pinion. One of the racks B works within a cylinder upon which the boot leg is placed. Upon the end of the rack B are hooks which catch into the straps of the boot leg, while a catcher attached to the outer rack holds the counter of the boot leg, and the opposite movement of the racks causes the boot leg to be drawn inside the cylinder and turned inside out.

Claim.—The racks B and C, cylinder H G G, ring J, and catcher F, when arranged and combined with the frame A and pinion D, and constructed to operate as described and for the purposes set forth.

No. 33,819.—JOHN A. BOLTON, of Leicester, England.—*Improvement in Hot-Air Furnaces.*—Patented in England March 19, 1861.—Patent dated December 3, 1861.—This invention is explained by the claim and engraving.

Claim.—First, the arrangement of the flue conveying the outer air to the heating chamber by bifurcating it at or about the said fire chamber, and by so continuing each branch flue as to follow up both sides of the fire hole and ash pit and then reunite in the heating chamber, whence the heated air is delivered to a hot-air chamber, and from there delivered to the apartments, as shown and described.

Second, forming the heating chamber and hot-air chamber in one compartment by the use of a divisional plate provided with a bottom plate, so that the air shall be gradually heated in the former and caused to come in contact with the fire-plate previous to its entering the hot-air chamber, as described and shown.

No. 33,820.—C. C. BRADLEY, of Brodhead, Wis.—*Improvement in Doubletrees.*—Patent dated December 3, 1861.—The doubletree is made of sufficient length to receive the outside traces, and to the ends of which they are attached. The inside traces of each animal are connected and pass around a pulley in the centre, by which means the draught is equalized. The ends of the doubletree are provided with a slot through which the chafe irons are bolted, which admits of the trace being placed more or less near to the end.

Claim.—The construction of a doubletree which dispenses entirely with swingletrees, and the application of the central pulley as a substitute therefor. Also, the method described of attaching the trace hooks to a movable slide with the slot therein, or substantially the same.

No. 33,821.—JOHN BROUGHTON, of New York, N. Y.—*Improved Cut-off Valve for Steam Engines.*—Patent dated December 3, 1861.—This invention consists in the operation of the cut-off valve or valves of a steam engine with a positive movement which is so controlled by a governor or other means independent of the eccentric from which such movement is derived, as to be capable of producing a variable lead of the valve and to make the amount of lead determine the point in the stroke of the piston at which the steam is cut off.

Claim.—First, regulating the velocity of a steam engine by combining the regulator with a positively operating valve gear when such regulator determines the lead of the valve, and the lead of the valve is made to determine the point in the stroke of the piston at which the steam is cut off.

Second, in combination with a lifter K, having a certain movement in relation to the main valves, the sliding bevel-faced toes Q Q', inclined tappets *a a'*, and rods I I', or their equivalents, operating substantially in the manner explained to impart a positive movement to the cut-off valves G G'.

No. 33,822.—J. C. BROWN, of Fond du Lac, Wis.—*Improvement in Machines for Sawing Shingle Bolts.*—Patent dated December 3, 1861.—The revolving table upon which the blocks to be sawed are placed, is formed by the enlargement of the upper end of a vertical shaft and made adjustable by means of a toggle joint operated by a lever, so that the blocks may be raised and revolved with the table and lowered again to the carriage.

Claim.—The use of the adjustable revolving table, or its equivalent, substantially as described, for sawing the blocks on end, whereby they may be divided into suitable bolts for shingles, as specified.

No. 33,823.—W. D. BUSH, of Fall River, Mass.—*Improved Row Lock.*—Patent dated December 3, 1861.—The points of the row locks are recessed on their inner sides for the reception of a leather mat. The shaft is provided with a projection or pin at its lower end by which it is retained in the socket, which latter has a spiral groove upon its inner side through which the pin passes as the row lock is inserted.

Claim.—Recess F3, and pin *a3*, the spirally rifled socket G4, constructed and operating as and for the purpose set forth.

No. 33,824.—C. W. CAHOON, of Portland, Me.—*Improvement in Lamps.*—Patent dated December 3, 1861.—The base of the fulcrum is made to fit the collar of the lamp. From the base extend two arms, which are brought nearly together and curved so as to reach up and hold the lever. The indentations in the fulcrum allow of the distance to which the chimney shall go back to be regulated, without regard to the lamp.

Claim.—In combination with a lever and chimney fastenings, an adjustable fulcrum, substantially as described.

Also, in combination with a lever and chimney fastenings, the indentations F F, for the purpose of preventing the chimney from going too far back, substantially as described.

No. 33,825.—C. W. CAHOON, of Portland, Me.—*Improvement in Lamps.*—Patent dated December 3, 1861.—The portion of the lever on which the chimney rests is made in the form of a flat plate, having a circular hole in its central portion for the flame to pass through, so that the lever will serve as a deflector. The air chamber is attached to the lever so as to be moved by it, by which the necessity of raising the wick alone is obviated. To the lever outside of the air chamber is attached a tubular screen to prevent the lamp from smoking when carried about. Just above the top of the wick tube is placed a flat metal ring combined with the lever for raising the chimney, so as to prevent the lamp from smoking in lighting other lamps. A bar is provided with a stop near that end of it which goes into the wick, over which stop is placed a cap attached to the wick tube, to afford a means for raising a round solid wick when a lever for lifting the chimney is used. Attached to an adjustable fulcrum is a piece of metal reaching downwards, so that it can be easily held by one of the fingers of the hand.

Claim.—First, a lever with chimney fastenings having that part of it on which the chimney rests extended so as to form a deflector, substantially as described.

Second, the combination of the lever A with the air chamber D, when the air chamber is attached to the lever and is movable with it, substantially as described.

Third, in combination with a lever for raising the chimney, the air chamber D and screen E, arranged substantially as described.

Fourth, the ring G, in combination with the lever A, substantially as described.

Fifth, the bar H, having a stop I, in combination with the cap J and lever A, substantially as described.

Sixth, the handle L, in combination with the adjustable fulcrum K and the lever A, substantially as described.

No. 33,826.—RICHARD COLVIN, of Baltimore, Md.—*Improvement in Beehives.*—Patent dated December 3, 1861.—This invention consists in making a division or partition between the spaces designed to be occupied by combs for the purpose of securing straight combs; to be used more especially in connexion with movable frames.

Claim.—The divisions or partitions placed between the spaces designed to be occupied by combs in beehives, for the purpose of insuring straight and uniform combs, substantially as described, when either the partitions or comb frames, or both, are made capable of independent lateral movement.

No. 33,827.—T. D. DAVIS, of Syracuse, N. Y.—*Improvement in Mode of Attaching Carriage Shafts.*—Patent dated December 3, 1861.—The heel and arm are cast or made in one piece, and are attached to the shafts and cross bars by flanges and bolts.

Claim.—A wrought or malleable shaft heel and arm constructed so as to secure and tighten the shafts and cross bar, substantially as shown and described.

No. 33,828.—G. C. L. DEGENHARDT, of Treskow, Pa.—*Improved Apparatus for Purifying Acid Water for Steam Boilers.*—Patent dated December 3, 1861.—The object of this invention is to purify water pumped from mines to be used in steam boilers. The mine water, instead of being pumped directly into the boilers, is first pumped into a tank above the boilers. In this tank is placed a requisite quantity of slacked lime; steam is then introduced by means of pipes into the tank, which heats the water and stirs the lime so as to cause a complete neutralization of the acid in the water.

Claim.—The combination of apparatus, substantially as described, to operate in the manner and for the purposes set forth.

No. 33,829.—J. C. DICKEY, of Saratoga Springs, N. Y.—*Improvement in Machinery for Crushing or Pulverizing Quartz.*—Patent dated December 3, 1861.—The wheel is made hollow and in sections, to the two outer ones of which are bolted adjustable hammers on the inside of the wheel. One of the sections is made conical at its centre to allow the pulverized quartz to pass into the conical sieve, which is secured within the hollow shaft at one side. The hopper is made with a projection at its base, which extends into the hollow shaft on one of the sections of the wheel, the shaft being made inclined so as to pass the quartz more readily into the wheel.

Claim.—First, the employment of one or more of the hammers I in the wheel B, for the purpose specified.

Second, the employment of the sieve D in the hollow shaft of section *l* of wheel B, for the purpose specified.

Third, the arrangement and employment of the hopper E, for the purpose specified.

No. 33,830.—G. H. DONGE, of Camden, N. J.—*Improvement in Hinges.*—Patent dated December 3, 1861.—This invention consists of a hinge so constructed and applied to the

doors or lids of cabinet-ware, &c., as to be effectually concealed from view when the doors or lids are closed.

Claim.—First, the link E, with its pins *e* and *e'*, in combination with the boxes C and D, or their equivalents, and their elongated slots for the reception of the said pins, the whole being constructed and applied to the lids or doors of pianos, cabinets, &c., substantially as and for the purposes set forth.

Second, the projections *i* and *i'* of the link E, when arranged in respect to the concave interior of the boxes C and D, and to the recesses *j j* of the said boxes, substantially as set forth.

No. 33,831.—H. C. FELTHOUSEN, of Buffalo, N. Y.—*Improvement in Signal Lanterns.*—Patent dated December 3, 1861.—A pair of vertical rods are arranged upon two opposite sides of the lantern, one of each pair being stationary and the other movable, and both connected to colored glass, so that the latter may be supported, and raised and lowered, for a change of signals. The funnel inverted over the chimney is made air-tight at its apex and sides, so as to prevent any pressure or puff of air from striking the top of the chimney, thereby adapting the lamp to burn kerosene oil.

Claim.—The arrangement of the movable and stationary vertical rods D and E, and the movable and stationary tubes G and H, and connecting piece F, with the colored glass and frame C, as a means of raising, lowering, and supporting the colored glass for change of signals, substantially as described.

Also, the funnel J, made air-tight at its apex and sides, inverted and suspended over the top of the lamp chimney, in its arrangement with the cap L and outside guard K, for the purposes and substantially as described.

No. 33,832.—J. H. FOSTER, of Detroit, Mich.—*Improved Apparatus for Steering Vessels by Water.*—Patent dated December 3, 1861.—The stationary tubes are secured transversely to the hull of the vessel, one at each side near the stem or stern and extending through the sides to the water. Between the inner ends of the tubes is journaled a cylinder containing a spiral flange or screw, and on the periphery of the cylinder is a circle of cogs, to be connected with the steam engine and receive motion therefrom. By the motion of the screw, water is drawn into one or the other of the tubes at one side and expelled at the other, thus imparting a lateral motion to either side as desired.

Claim.—The combination of the stationary transverse tubes B B' and rotary cylinder C, with a shaftless screw F fixed therein, and cogs G upon its periphery, employed in the manner explained, for working and steering vessels.

No. 33,833.—HENRY FRANKFURTH, of Utica, N. Y.—*Improved Baby Jumper and Supporter.*—Patent dated December 3, 1861.—Under the ring which supports the child is fixed a vertical rod over each of the legs of the stand. These rods slide up and down in the legs, and are adjusted to any height by means of a curved spring catching in ratchet teeth on the rods.

Claim.—First, the making of the baby walker and supporter adjustable as to its height, in order to suit the length of the child, or more or less to relieve its feet and limbs, as described.

Second, the gate and gateway, as described, by means of which the child may be introduced or removed horizontally, as described.

No. 33,834.—WILKENSON FURNAS, of Ononwa, Iowa.—*Improvement in Ploughs.*—Patent dated December 3, 1861.—This invention is designed for cultivating growing plants in hills or drills, and consists in arranging the parts so as to admit of lateral and vertical adjustment, for the purpose of regulating the depth of the furrows, and also the course of the furrows relatively with the plants.

Claim.—The arrangement of the pulley bars N N, pulleys M *o*, treadles P, levers J J, cords *c c*, bars F F, and racks K K, with the swinging and rising plough, standards G G, and the driver's seat Q, all as shown and described.

No. 33,835.—G. W. GARDNER, of Troy, N. Y.—*Improvement in Percussion Shells.*—Patent dated December 3, 1861.—The object of this invention is to construct a percussion shell so as to allow it to be handled, transported, or rammed into the gun without the liability of explosion. The hammer is retained within the nipple-tube by means of a spring, when the shell is not subject to explosion; but when the shell is exposed to the flame in its discharge from the gun the fuze-plug will be ignited and consumed, and the cylinder, being liberated from the pressure produced by the plug, will rise so that its head will project, which brings the hammer over the percussion cap in condition for exploding the shell upon striking an object.

Claim.—So constructing percussion shells that the hammer, or its equivalent, may be held by the side of the cap, or inoperative until discharged from the gun, and then be placed upon the cap by the use of the fuze-plug, or its equivalent, and the combination of the cylinders and springs, substantially as set forth.

No. 33,836.—HENRY GROSS, of Tiffin, O.—*Improvement in Revolving Fire-Arms.*—Patent dated December 3, 1861.—This invention is explained by the claim and engraving.

Claim.—The hammer E, when constructed as described, which, on being raised or cocked through the mechanism described, withdraws the cylinder from the breech of the barrel, intermittently revolves and releases it, and by means of its projecting part or cam F finally locks the cylinder to the barrel at the moment of firing, as set forth.

No. 33,837.—T. C. HARGRAVES, of Schenectady, N. Y.—*Improvement in Broom Vise.*—Patent dated December 3, 1861.—This invention, which consists of a series of devices indicated in the claim, is designed for holding brooms while the stitches are being put in, to hold the corn below the handle.

Claim.—The arrangement described of the bed-plate 1, with its side ribs 3 3, cross-plate 5, jaw 6, fingers 21 23, folding jaw 25, and lugs 9, the sliding plate 4, with its side ribs 7, cross-plate 8, rack gear 11, ratchet rack 15, jaw 18, fingers 22 24, folding jaw 26, the pinion lever 13, and the pawl 16, in combination with each other, substantially as set forth.

No. 33,838.—AARON HIGLEY, of Sand Creek, Minn.—*Improvement in Grain Separators.*—Patent dated December 3, 1861.—This invention consists in an arrangement of sieves with an endless conveyor-fan and seed-drawers, for separating the different kinds of grain and depositing the same in separate receptacles, free from impurities, such as chess, cockle, and tailings.

Claim.—First, the arrangement of the hopper A, sieves *e f g h i j*, imperforate plates *o v*, and troughs A' B' W X, with shoe B, the whole combined and operating in the manner and for the purpose described.

Second, the arrangement of the sieves in the shoe B with the endless apron F, trunk G, fan I, sieves K L M in the shoe J, and drawers E O R, the whole combined and operating in the manner and for the purpose described.

Third, the combination of the sliding gate or valve *a*, screw-bolt *b*, and nut *c*, for regulating the size of the seed aperture in the hopper H, substantially as described.

No. 33,839.—B. B. HILL, of Chicopee, Mass.—*Improvement in Shaft-Coupling.*—Patent dated December 3, 1861.—The pin or bolt which passes through the jaws of the clip and the eye of the shaft iron and fastens the shaft in its place, is made larger at one end than the other, the part which rests in the eye at the end of the shaft being of taper form; the eye in the shaft iron being also tapering. The ends of the pin may be cylindrical, and are threaded as screws.

Claim.—The employment of a tapering or conical bearing pin or bolt *B* for the socket of the shaft iron, having an adjustable set screw A and set nut E, in the manner substantially as and for the purpose described.

No. 33,840.—J. W. HINMAN, of Omro, Wis.—*Improvement in Buckles.*—Patent dated December 3, 1861.—This invention consists in the combination of a sliding tongue with a bar upon which it is allowed to slide, and by which it is kept in position and prevented from turning, and two cross-bars, between which the strap to be held passes, by which cross-bars the tongue is supported at both ends.

Claim.—A buckle constructed, combined, and operating substantially as described.

No. 33,841.—H. C. HUNT, of Amboy, Ill.—*Improvement in Car-Couplings.*—Patent dated December 3, 1861.—This invention consists in the arrangement of a peculiarly formed hook hung on an axis upon which it is allowed to turn freely, a vertical sliding-catch held in position by a spring, and a link provided with a hook at one end and supported in a horizontal position by means of a curved spring.

Claim.—The arrangement of the spring G and hooked link F with the curved oscillating hook B, vertically sliding-catch C, vibrating arm *d*, and flaring draw-head A, the said parts being constructed and operating together in the manner shown and described.

No. 33,842.—P. KANE and W. FLOYD, of South Perry, O.—*Improved Burglar Alarm.*—Patent dated December 3, 1861.—This invention consists in the adaptation to a common gun lock, enclosed in a suitable case or stock, of certain devices by means of which it may be attached to the keyhole of a door lock. An attempt to introduce a key or other instrument on the outside of the door, after the alarm is set, causes the hammer to fall and effect an explosion of such charge as may have been provided.

Claim.—The combination of stud I, spring H, and case A, substantially as described, whereby the alarm can be readily applied to any ordinary door lock.

Also, the plunging trigger F, in combination with the devices referred to, and with the alarm mechanism constructed, arranged, and operating substantially in the manner and for the purpose set forth.

No. 33,843.—MARK LOUNSBURY, of Seymour, Conn.—*Improvement in Fruit-Gatherers.*—Patent dated December 3, 1861.—Upon the upper part of the handle or pole is arranged a slide-bar actuated by a cord and connected by links to two knives of a semicircular shape,

so that they may be brought together by the slide and cut the stem of the fruit, which latter falls into a bag or basket depending from a ring attached to the handle.

Claim.—The slide-bar *g* and links *f f*, actuated by the cord *h*, in combination with the knives *e e* and receptacle or bag *d*, for the purposes and as set forth.

No. 33,844.—D. McDANIEL, of New Castle county, and E. A. HARVEY, of Wilmington, Del.—*Improvement in Removing Acid from the Surface of Iron.*—Patent dated December 3, 1861.—This invention is explained by the claim.

Claim.—The improved process of removing acid from sheets and other articles of iron described, to wit: Immersing the sheets or articles of iron under a vacuum or partial vacuum, or immersing and boiling under a vacuum or partial vacuum the sheets or article of iron from which the acid is to be removed or cleaned, in a solution of soda, lime, or caustic soda, or in some solution which will neutralize the acid previously applied to the iron.

Also, urging or forcing, by means of liquid, steam, or atmospheric pressure, the neutralizing solution of soda, lime, caustic soda, or other solution, as will neutralize the acid previously applied to the iron into the pores or interstices in the iron.

No. 33,845.—LEWIS MILLER, of Canton, O.—*Improvement in Harvesting Machines.*—Patent dated December 3, 1861.—Between the end of the main supporting axle and the end of a pulley shaft, whence the reel is driven, is a toggle link so arranged that the reel may, in rising and falling, and in approaching or receding from the main frame, still continue in motion without being cramped or checked.

Claim.—In combination with a harvesting machine that has its finger bars hinged to the main frame, and whose reel is operated from the main driver wheel or axle, a toggle link connexion between said driver wheel or axle and the reel shaft, so that the finger bar and its appliances may be free to rise and fall in conforming to the inequalities of the ground over which it is passing, and continue to be driven without cramping, substantially as described.

No. 33,846.—HENRY MOOERS, of Toledo, O.—*Improved Mode of Heating Moulds.*—Patent dated December 3, 1861.—The device used in this invention consists of a ring or chill, cast hollow, and provided with a tube for the entrance and escape of the steam, or a coil of iron pipe passing several times around the chill may be used.

Claim.—The heating, by means of steam, the chills or moulds for hardening the tread of cast iron wheels or wheel-tire for railroad cars or carriages, in the mode substantially as described.

No. 33,847.—DANIEL MOORE, of Brooklyn, N. Y.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated December 3, 1861.—This invention consists in the use of double breech blocks, one sliding in the other on the line of the barrel and the other at right angles thereto, in such a manner that the transverse moving block draws away from behind the longitudinally moving block which draws away from the barrel for introducing the cartridge, and is forced up again to the rear end of the barrel, when the laterally moving block comes up behind to sustain the longitudinally moving block against the force of the explosion. A peculiarly constructed lever is made to act upon the blocks in such a manner that by a simple movement forward or back the two blocks are slidden, and the breech opened or closed by the one motion of the lever.

Claim.—First, the breech blocks *d* sliding on the line of the barrel, combined with the rectangular block *e*, moving at right angles to said block *d* in the manner specified, so that the block *e* is drawn down for the block *d* to slide back and over said block *e*, as set forth.

Second, the lever *h* on the fulcrum 4, with the arms *i* and *k*, in combination with the blocks *d* and *e*, so that the movements specified are given to said blocks by said lever, as set forth.

Third, the semicircular grooved piece 3 to receive the flange of the cartridge, in combination with the breech block *d*, fitted and acting as set forth.

Fourth, the spoon-shaped piece *l* on the lever *h* to receive the cartridge when entered, or to loosen the metallic case from the groove 3, as set forth.

No. 33,848.—E. A. and SAMUEL MOORE and DAVID MOONEY, of Findley, O.—*Improvement in Cattle Pumps.*—Patent dated December 3, 1861.—This invention consists in the use of a force pump in connexion with a loaded or counterpoised tilting platform, so arranged that as the piston begins to descend under the action of the weight of the animal, water will be ejected from the spout.

Claim.—The arrangement of the tilting platform I and bar or lever J, loaded as shown, in combination with the force pump partially or wholly submerged, and provided with the jointed elevation tube F, valves C G, and solid or close piston D, as and for the purpose set forth.

No. 33,849.—G. W. OAKELEY, of Reading, Pa.—*Improvement in Heaters.*—Patent dated December 3, 1861.—The inclination of the tubes is designed to cause a continuous current of air to pass from one side to the other; partitions are secured between the tiers of flues, with an open space at each end alternately, so as to give the products of combustion a tortuous course through the radiator.

Claim.—The flues B B, arranged in tiers, one tier being inclined in a direction contrary to that of the adjacent tier, in combination with the inclined partitions D L, the whole being arranged within a casing of any desired form, substantially as and for the purpose set forth.

No. 33,850.—OSCAR PADDOCK, of Watertown, N. Y.—*Improved Ice Cream Freezer.*—Patent dated December 3, 1861.—The object of this invention is to give motion to the freezing vessel within the ice reservoir and clear the interior surface of the vessel from the ice adhering thereto.

Claim.—First, in a freezing vessel designed to rotate its axis the stirring blades or studs arranged upon and around the said vessel, substantially as described, so that the ice in immediate vicinity of the said vessel shall be constantly stirred and the salt precipitated to the bottom of the reservoir, mixed with the ice, as set forth.

Second, forming the pivot of the freezing vessel of a spherical or conical shape externally, with an angular cavity internally, in combination with a cylindrical spindle having angular ends to fit the said cavity and crank, whereby rotation may be imparted to the vessel without fastening the spindle thereto.

Third, combining with the spindle and freezing vessel, constructed as described, a hollow spindle provided with scraping blades, the former having an angular head for holding the scrapers stationary within the vessel while it is being rotated, substantially as and for the purpose set forth.

Fourth, providing the cover of the freezing vessel with adjustable flaps to clasp, when necessary, the solid spindle, so that the scraping blades may be removed when the ice shall have acquired a certain degree of consistency.

No. 33,851.—W. B. READY, of Sacramento, Cal.—*Improvement in Gang Ploughs.*—Patent dated December 3, 1861.—The curved beams are designed to throw the strain or pull down and lessen the draught of the implement. To the forward part of the outer beams are secured bent arms, to which the wheels are attached, and by means of a slotted bar and set screw the position of the wheels is regulated, so as to determine the depth of the ploughs in the ground. By means of a lever attached to one of the arms the ploughs may be raised clear from the ground by the driver.

Claim.—First, the curved beams A, when used in connexion with a gang plough, or a series of ploughs, connected together by cross-bars B B B', constructed and operating as and for the purpose set forth.

Second, the arrangement of the arms G, wheels I, and the lever J, when attached to the right-hand arm G, and connected to the central beam A, as and for the purpose set forth.

No. 33,852.—C. G. SARGENT, of Graniteville, Mass.—*Improvement in Machines for Cleaning Fibrous Materials.*—Patent dated December 3, 1861.—The case containing the comb-beating cylinder is constructed so that no air can enter except a small quantity under the feed rolls and at the opening under the guard cylinder. The material being fed upon the apron, is carried forward to the feeding rolls, which pass it to the comb cylinder, by which the fibres are combed out and straightened, the dust and light dirt being carried through the perforated lining on the top of the cylinder and blown off by the fan.

Claim.—Picking the fibre at the front and rear of the machine, in combination with two inrushing currents of air, substantially as described.

Also, in combination with the picking of the fibre at the front and rear of the machine, and the two inrushing currents of air for carrying the lighter impurities up into the machine, the two passages immediately below the picking points for the grosser impurities to fall into, substantially as described.

Also, in combination with the main cylinder D and the toothed cylinder I, the guard cylinder J, in connexion with the open space leading into said cylinder D for the air to pass in, substantially as and for the purpose described.

Also, in combination with an exhaust fan, arranged over the machine, and the air passages leading to it from the front and rear of the machine, for carrying off the lighter impurities, and the passages below for the grosser impurities to fall into, the cylinders J I M, for the double purpose of closing that part of the machine against the admission of air, and for separating and carrying out at different points or places the cleaned fibre, the dust, and the grosser impurities, without allowing them to mingle after they are once separated, substantially as described.

No. 33,853.—JOHN SCHEEPER, of New York, N. Y.—*Improvement in Combined Carriage Lantern and Axle Lubricator.*—Patent dated December 3, 1861.—This invention consists in attaching a lantern to the front axle of a carriage, which is provided with a reservoir, so constructed as to automatically supply oil to lubricate the axle bearings and at the same time feed the lantern.

Claim.—First, feeding a carriage lantern and axle bearing with oil from the same reservoir, substantially as described for the purpose set forth.

Second, the reservoir E, screw cap J, horizontal perforated tube F, screw nuts *b c*, tube *c*, collar C, and axle bearing B, when combined, arranged, and operating in the manner described.

No. 33,854—S. J. SEELY, of Brooklyn, N. Y.—*Improvement in Portable Body Battery.*—Patent dated December 3, 1861.—This invention consists of a portable battery, to be carried by a foot soldier upon the front of his body, and to be fired from that position, or upon the breast of the horse of a cavalry soldier, to be fired by the rider. A series of breech-loading pistol barrels are attached to a plate, which serves the double purpose of securing the barrels of the battery in place and of protecting the vital parts of the body of the wearer from shot. The whole number of barrels of the battery may be fired instantaneously, by means of an arrangement of communicating apertures, upon the explosion of a single percussion cap, or each adjoining barrel after the first may be fired by the firing of the preceding barrel.

Claim.—First, the general arrangement of the portable battery, constructed and operated as shown and described.

Second, the use of the breast or body plate A, in combination with the series of barrels B, for the purposes set forth.

Third, the combination of the breast or body plate A with the breastplate F, as shown, whereby the series of barrels B can be loaded readily from the breech by the wearer and operator of the battery, as described.

Fourth, the use of the arrangement of the apertures communicating from the first to the last of the series of barrels B, as described, by which the whole of the series of barrels are fired by the explosion of a single percussion cap or wafer, (avoiding the necessity of using a train or fuze to effect that purpose,) as set forth.

No. 33,855.—F. B. STEVENS, of Weehawken, N. J.—*Improvement in Cut-Off Valve Motion.*—Patent dated December 3, 1861.—This invention consists in certain additions to the valve motion patented by R. L. and F. B. Stevens, January 25, 1841, and have for their object raising the eduction valves more rapidly than they are commonly raised; and also to produce the same effect as that of the addition of Stevens's cut-off, known as the "Gags," by placing hinge pieces on the top of the tappets that work the induction valves, which hinge pieces are worked by small tappets placed on the hollow rock shaft.

Claim.—First, setting the tappets that work the eduction valves on the same shaft, and at or near the same angle of depression that the tappets of Stevens's cut-off are set, so that the eduction valves can be lifted at the same speed that the induction valves are lifted by Stevens's cut-off.

Second, the hinge pieces E F G and H, hinged at the ends of the tappets A B C and D, and raised and lowered by the small tappets L M N and O, these small tappets being attached to the hollow rock shaft I placed over the rock shaft *d*, and worked by the eccentric motion that works the eduction valves in Stevens's cut-off, as commonly constructed.

No. 33,856.—F. B. STEVENS, of Weehawken, N. J.—*Improved Condenser for Steam Engines.*—Patent dated December 3, 1861.—The nature of this invention will be understood from the claim.

Claim.—First, the combination of a surface or external condenser with a cooler, so that a part of the steam is condensed by external condensation and a part by the injection of water withdrawn from the condenser and cooler after having been cooled there.

Second, the combination of a surface or external condenser placed between the side pipes and the ordinary condenser of a steam engine, with a cooler for cooling the water from the hot well; this cooler being placed between the hot well and the ordinary condenser, so that the steam, after being partially condensed by the external condenser, is then further condensed by means of the injection of the cooled water from the hot well into the ordinary condenser, the surface of both external condenser and cooler being cooled by the application of water.

No. 33,857.—F. B. STEVENS, of Weehawken, N. J.—*Improved Condenser for Steam Engines.*—Patent dated December 3, 1861.—This invention consists in forming the condenser or cooler in a series of parallel rectangular passages by plates of cast iron, the water to be cooled or the steam to be condensed, being made to pass through certain of the passages, while the cooling water is made to pass through the others in a current at right angles to the current of the water to be cooled or the steam to be condensed, and on the reverse side of the surface. The current of the water to be cooled is reversed and made to pass successively through two or more of the rectangular passages. In the pipes that convey water to the rectangular passages are placed guide plates in such a manner, that the water may be conducted into each passage in equal, or nearly equal, quantity. Between every two apertures is formed a wedge or bow piece for the purpose of preventing the water from being impeded by striking against a flat surface between the two apertures. Water is made to enter the vessel by means of two or more apertures in its side.

Claim.—First, a condenser or cooler for steam engines, formed by a series of parallel rectangular passages *b b b*, through which the steam to be condensed or water to be cooled passes, while the current of the cooling water is made to pass through the passages *a a a* on the reverse side of the surface, and in a current at right angles to the current of the steam to be condensed or water to be cooled, and forming these passages by means of the rectangular metallic plates *c c c*, made separately, and bolted together by the bolts *e e e*, or cast together

as shown in figures V, VI, VII, and VIII. Also two or more of these condensers combined into one, by being attached to each other by the screw bolts O O O.

Second, reversing the current of the water to be cooled by means of the cap pieces *r* and *s*, so that it may be made to flow in succession through two or more of the rectangular passages *b b*.

Third, the guiding plates K K K, as a means of guiding the water into the rectangular passages, so that it may be equally distributed.

Fourth, the deflecting pieces *h h h*, so arranged as to gently deflect the cooling water into the rectangular apertures *a a a*.

Fifth, two or more apertures *t t t* made through the side of the vessel or ship, in combination with the condenser or cooler, and also in the same combination with the sloping recesses *u u*.

Sixth, in combination with the condenser or cooler, the pipe H, turned upward as a device to render the condenser or cooler accessible without the intervention of a cock or valve; also, the small pipe and cock Y, connecting the pipe at or near the summit of the turn with the interior of the condenser.

No. 33,858.—F. B. STEVENS, of Weekawken, N. J.—*Improvement in Cut-Off.*—Patent dated December 3, 1861.—This invention consists in certain additions to the valve motion patented by R. L. and F. B. Stevens, January 25, 1841. An additional rock shaft is connected with the exhaust rock shaft, so that its motion is identical, and upon this additional rock shaft are placed toes or tappets that work against additional feet placed on the induction valve lifting rods. By means of screws and nuts, in connexion with the tappets, the steam may be cut off at some point between that at which Stevens's cut-off is set and the full stroke of the piston.

Claim.—Adding to Stevens's cut-off the shaft A, and tappets E and F, the lifters Q and R, the hinge pieces O and P.

Also, adding the right and left handed screw H, working the nuts I and K backward and forward, and elevating and depressing the tappets E and F.

No. 33,859.—EMIL TRITTEN, of Philadelphia, Pa.—*Improvement in Lamps.*—Patent dated December 3, 1861.—In connexion with the wick tube is used a perforated sliding cap, fitted upon the wick tube by means of a non-conducting connexion, for the purpose of burning coal oil without a chimney, and admitting of a ready adjustment for burning coal oils of different grades.

Claim.—The sliding cap C, formed of a lower conical part *a*, surmounted by a deflector *b*, said parts being perforated, and the cap connected with the wick tube B, by having the latter pass through the bottom *e* of the former, substantially as and for the purpose set forth.

Also, having the bottom *e* of the cap C constructed of wood or other substance, which is a good non-conductor of heat, when said cap is used in combination with the wick tube B, and all arranged as and for the purpose specified.

No. 33,860.—I. B. TURNER, of Jacksonville, Ill.—*Improvement in Cultivators.*—Patent dated December 3, 1861.—This machine is designed to plough, roll, and pulverize the ground at the same time.

Claim.—First, in combination with a main frame, supported on and carried by a drum B, on one side serving as a roller and a wheel C, on the opposite side a hinged plough frame D, controlled by said main frame, substantially as described.

Also, the combination of the pivoted levers E P with a horizontally hinged tongue O, so that the driver, from his seat, may change the line of draught and the direction of the machine, substantially as set forth.

Also, the angularly shaped brace *n*, for holding the mould board to the brace at its upper portion, when it also admits of having the unobstructed space between the mould board and the brace, as at *h*, for the purpose as described.

Also, fastening the mould boards to the plough frame by means of the cross braces *i j*, brace *n*, and staple *m*, with its key, in the manner and for the purpose described.

Also, the removable extension piece *t*, in combination with the mould board, for the purpose described.

No. 33,861.—WASHINGTON WHITNEY, of Baldwinsville, Mass.—*Improved Clothes Wringer.*—Patent dated December 3, 1861.—This invention consists in a method of applying an India-rubber spring to the rollers, for the purpose of regulating the degree of pressure upon the clothes which pass between them.

Claim.—The described wringing machine, having its rolls B and C drawn together by the spring G, which is pivoted at one end to the frame, and is compressed by an attachment *g* to the upper, as set forth, for the purpose specified.

No. 33,862.—W. A. WOOD, of Hoosick Falls, N. Y.—*Improvement in Harvesters.*—Patent dated December 3, 1861.—This invention consists in uniting the finger bar to a bent bar at or near the line of the centre or axle of the drive wheel, said bent bar being in turn hinged by rods to the stubble side of the main frame, so that it, as well as the finger bar, may rise and fall, or be raised up and held or let down, at pleasure, by the operator, from his seat.

Claim.—Connecting a short finger bar to the bent bar E, at or near the line of the axle or centre of the main driving wheel, in combination with the hinging of said bent bar to, or near to, the stubble side of the main frame by rods or braces, substantially in the manner and for the purpose described.

No. 33,863.—J. A. WOODBURY, of Boston, Mass.—*Improvement in Projectiles for Smooth-bored Ordnance.*—Patent dated December 3, 1861.—The external oblique channels by which rotation is imparted to the shot are formed of the greatest depth at the greatest diameter of the shot, and decreasing gradually in depth towards the front and rear, in order to present the smallest possible area of resistance to the passage of the shot through the air.

Claim.—First, channelling or grooving, in the manner explained, the surface of an elongated projectile, tapering toward both ends, for the purpose of producing the greatest rotative force with the least possible atmospheric resistance.

Second, the use of a sabot, spirally or obliquely winged or grooved, so as to receive rotation by the action of the gases escaping in the act of firing in the described combination, with a projectile spirally winged or grooved in the opposite direction, so as to receive a corresponding rotation by the action of the atmosphere during its flight.

No. 33,864.—Suspended.

No. 33,865.—L. R. CARPENTER, assignor to Himself and S. K. WILLIAMS, of Lancaster, O.—*Improvement in Carriage Brakes.*—Patent dated December 3, 1861.—This invention is explained by the claim.

Claim.—Hanging or arranging the shaft that winds the chain and applies the brake, substantially as described, so that when the fore end of the pole or perch is depressed in descending a hill, the roller S will swing against the wheel or hub and be turned, so as to wind the chain and apply the brake, and when the fore end of the pole is raised the wheel will swing from the hub and release the brake,

Also, the cam U on the shaft L, for the purpose specified, substantially as described.

No. 33,866.—J. B. CLARK, administrator of D. F. SMITH, deceased, assignor to A. W. SMITH, of Manchester, N. H.—*Improvement in Fliers.*—Patent, dated December 3, 1861.—The object of this invention is to wind more closely and evenly the thread upon its bobbin, by means of an adjustable presser attached to the flier. The bobbin having been placed in the flier, the latter is set in motion with the thread, and by the revolution of its flier the thread is wound on its bobbin, and the arm of the presser, flattened at its end, is continually held down to the surface of the bobbin by means of its springs.

Claim.—The mode of regulating the pressure, by means of the adjustable spiral spring S connected thereto, substantially as described, for the purposes set forth.

No. 33,867.—W. E. HATFIELD, assignor to REUBEN RADEN and GEORGE HALL, of Newark, N. J.—*Improvement in Machines for Sizing Hat Bodies.*—Patent dated December 3, 1861.—The cisterns which contain the heated liquor are placed between a crozing board or plank and the sliding and lifting plates which do the work. The upper plate is provided with corrugations on its under side, and to this plate a reciprocating motion is given. The under plates being fast in a frame, are arranged to be lifted by the foot of the workman to the upper moving plate, so that the amount of pressure may be duly regulated.

Claim.—The combination of the plates C and H, having either smooth or roughened surfaces, with the cisterns and crozing planks, the whole being constructed and operated substantially as and for the purpose specified.

No. 33,868.—B. B. HILL, assignor to Himself and H. R. GARDNER, of Chicopee, Mass.—*Marking Brand.*—Patent dated December 3, 1861.—This invention is explained by the claim and engraving.

Claim.—A marking brand *a*, case *c*, open on one side to receive the letter A for the purpose of providing proper flanges *d* for holding the letters and bosses K, for securing the cap *e*, with the letters in place, substantially as and for the purpose described.

No. 33,869.—S. G. RICE, assignor to Himself and HEZEKIAH DODGE, of Albany, N. Y.—*Improvement in Sash-Fasteners.*—Patent dated December 3, 1861.—A toothed wheel is so placed that its cogs shall project just beyond the outer edge of the sash frame and fit in the rack at the side. The movement of the wheel is controlled by a bent lever kept in position by a spring, by which means the sash is held at any desired height.

Claim.—The rotary catch B, in combination with the ratchet R and the stop lever L, for the purposes set forth, and substantially as set forth in the specification.

No. 33,870.—J. B. WILLIAMS, of Williamstown, N. J., assignor to Himself and J. M. MOORE, of Fisherville, N. J.—*Improvement in Preserving Vessels.*—Patent dated December 3, 1861.—The nature of this invention will be understood by reference to the engraving.

Claim.—The cover H, its annular flange *h*, the annular projection *i*, and gum-elastic ring I, in combination with the tapering mouth *a* of the vessel and the collar *b*, together with the yoke B, or its equivalent, the whole being arranged as set forth, for the purpose specified.

No. 33,871.—JOSEPH WOOD, assignor to Himself and EDWARD W. SERRELL, of Red Bank, N. J.—*Improvement in the Mode of Oiling Journals.*—Patent dated December 3, 1861.—This invention consists in the use of shavings saturated with oil, in contact with the bearing or journal to be lubricated, as a substitute for cotton waste.

Claim.—The manner specified of supplying oil or lubricating material to journals by the employment of the material described, in the manner and for the purpose set forth.

No. 33,872.—THOMAS BRACHER, of New York, N. Y.—*Improvement in Manufacturing Bonnets.*—Patent dated December 3, 1861.—This invention consists in arranging and combining, with a single heated former of the desired shape, a stretcher or instrument which shall draw and hold the material upon the former until it is sufficiently dried to maintain its shape.

Claim.—The combination of a former A, of the desired shape, and a stretcher or upper instrument B, constructed and operated substantially as described, to draw and hold the material upon the former while being shaped, whereby a heated upper die is dispensed with, and bonnets, hats, &c., are made of different material and thicknesses upon the same former, substantially as set forth and specified.

No. 33,873.—LEVI ABBOT, of Boston, Mass.—*Improvement in Gas Regulators.*—Patent dated December 10, 1861.—This invention consists in making the regulating valve and seat of vulcanized India-rubber, which, being a poor conductor, the vapors are less likely to condense upon the valve and seat than when they are constructed of metal. A rod projecting downward from the valve and entering a cavity in the regulating screw forms a guide for the valve stem, thus dispensing with the necessity of a guide across or above the valve seat, and obviating the obstruction which is offered to the gas by the cross-bar which supports such guide.

Claim.—First, the construction of the valve and valve seat of a gas regulator of vulcanized India-rubber, substantially as and for the purpose specified.

Second, forming a guide for the valve stem within the regulating screw E, applied at the bottom of the stem, substantially as specified.

No. 33,874.—J. R. BAYLIS, of Baltimore, Md.—*Improved Double Cone Marine Propeller.*—Patent dated December 10, 1861.—A series of oars which are set at an equal distance apart are attached to each end of a cone-shaped hub upon the shaft, so that the oars of each set alternate. The oars are wider at their outer ends than at the centre of the cone and are set obliquely, the angle of one set being the reverse of the other. As the ends of one set of the oars strike the water the latter is forced between the blades to the centre, and thence, by the spiral motion, is forced from the centre between the blades of the other set of oars, thereby increasing the speed of the propeller. By reversing the motion of the shaft a backward motion can easily be given to the boat.

Claim.—The construction of a double cone propeller, having its oars or blades constructed and when arranged relatively to the hub or axis, substantially as and for the purpose described.

No. 33,875.—EDWIN BOWEN, of Meriden, Conn.—*Improvement in Mode of Securing Chimneys to Lamps.*—Patent dated December 10, 1861.—This invention consists in the employment of a slide placed horizontally in the lamp top and provided at one end with a hook or catch, the slide having a spring applied to it near its centre. By means of the spring, one end of which bears against the wick-tube, the slide is drawn inwards and the catch brought over the chimney flange, so as to secure it. The chimney is released by pressing a button on the slide opposite the hook.

Claim.—The slide D, fitted horizontally in the lamp top A, provided with a hook *a* at one end, and having a spring E, bearing or acting against it within the top, substantially as and for the purpose set forth.

No. 33,876.—L. W. BROADWELL, of St. Petersburg, Russia.—*Improvement in Breech-Loading Ordnance.*—Patent dated December 10, 1861.—The sliding breech-block fits within a mortise cut for its reception in the breech of the gun, and is raised and lowered by means of a transverse shaft having two arms, which are connected with the breech-block by means of two links and pins. The arms and links work in narrow mortises provided for them in the back part of the breech-block, and operate as a toggle when the block is raised above the bore, the arms and links being in line with each other. When the block is closed the arms and links fold together.

Claim.—The employment for elevating and depressing the breech-block B, for opening and closing the breech, of shaft *g*, arms *h h*, and links *i i*, the whole combined, arranged, and operating substantially as specified.

No. 33,877.—L. J. CHATEAU, of Paris, France.—*Improved Machine for Breaking Subsoil.*—Patent dated December 10, 1861.—The "breaking instrument" consists of a block of iron in which are inserted three angular, pointed teeth, inclined downwards. The block is covered with a piece of wood, and the heads of the teeth, which are provided with nuts, project

through it. The block is attached to the car frame by a jointed pole, one end of which is fastened to the front cross-beam of the frame by an axle bolt, thus allowing its angle of inclination to be varied; and thereby regulating the depth to which the teeth penetrate. The regulator is a flat bar of iron, which is attached to the pole by a head and bolt, and extends up to the frame near the axle, where it is fastened by passing up through a hole in the bar. By having several holes made, the inclination of the bar can be varied. The teeth are raised from the ground by a cord attached to a winch on the rear part of the frame.

Claim.—First, the breaking instrument, constructed and arranged as specified.

Also, connecting the breaking instrument with the carriage by means of a compound reach-pole, as described.

Also, in combination therewith the regulator *i*, in the manner and for the purposes set forth; and further, in combination with the apparatus specified, the hoist for elevating the breaking apparatus, as described.

No. 33,878.—JOHN DE LONG, of Monroe, Wis.—*Improved Washing Machine.*—Patent dated December 10, 1861.—The wash-box contains a frame made in two parts, hinged together near one end. The under side of the frame is provided with staples to which rods are applied, so that the rubber may be adjusted at different angles. The frame is provided with an axle or pins at either side, so as to allow it to oscillate and cause the rubber to be moved over the clothes.

Claim.—The employment of the adjustable hinged frame B, forming both a lever and rubber, when constructed and arranged to operate with the box A, as and for the purpose specified.

No. 33,879.—H. H. DICKINSON, of Hartford, Conn.—*Attachment to Kerosene Lamps.*—Patent dated December 10, 1861.—The object of this invention is to obtain a simple device which can be applied to any lamp having a round wick-tube, to adapt it for burning coal oil without a chimney, and the invention consists in the application of a thimble attachment to the wick-tube of a larger diameter than the said tube for the purpose of allowing a free circulation of air to the flame. The upper portion of the thimble is of conical form, and it is also provided with slitted interstices alternating with points.

Claim.—The adjustable tube or thimble C surrounding the round wick-tube of an ordinary lamp, said thimble being of conical form at top, and having points *b e* and interstices *a d* at top and bottom, operating in the manner described for the purpose set forth.

No. 33,880.—G. D. DOWS, of Boston, Mass.—*Improved Soda Apparatus, combined with an Ice Cutter.*—Patent dated December 10, 1861.—In the end of the ice box is a vertical cylinder provided with an ice cutter extending the whole length of the cylinder. Upon the top of the cylinder is placed a toothed wheel which, through a series of gearing, is made to operate screw shafts on each side of the ice box, passing through nuts attached to the follower, which consists of a metal plate nearly fitting the box. As the ice is cut off, the follower keeps it close against the ice cutter. Underneath the ice box is the cream chest, provided with an eduction pipe opening in the vertical cylinder, thus allowing the cream to be added at the same time the tumbler is filled with ice.

Claim.—The arrangement, for cutting ice, of one or more cutters placed in a vertical cylinder, when the same are so arranged as to permit the passage downward of the ice, and are in combination with, substantially, the screw shafts T and S, nuts X X, and follower Y Y.

Second, the arrangement of the ice cutter substantially as and for the purpose described, when the same is in combination with the enveloping chest A A A A, sirup vessels B B, and cream chest H.

Third, the combination of the cream chest H*x*, the enveloping chest A A A A, the ice chest C C C C, and sirup vessels B B, all arranged substantially as and for the purpose described.

No. 33,881.—JACOB EARLY and J. B. PARVIN, of Hightstown, N. J.—*Improvement in Seeding Machines.*—Patent dated December 10, 1861.—Between the stationary cut-off brush and the perforated bottom, whose perforations correspond to the distances between the bristles on the brush, is placed the reciprocating slide formed of two perforated plates, the longitudinal adjustment of which, varies the size of the openings, and thus regulates the quantity of seed sown. The oblique braces which are placed between the bars are, near their extremities, parallel with the latter, and at that point one arm of the V-shaped plough standard is pivoted by a wooden pin. The other arm of the plough standard is attached by a crank to a lever by which the ploughs can be raised from the ground.

Claim.—First, the reciprocating slide G, formed of two adjustable perforated plates *e e*, in combination with the stationary cut-off brush F and perforated bottom *c* of the seed box E, all arranged as and for the purpose set forth.

Second, the combination and arrangement of the parallel adjustable bars K, oblique braces L, plough standards M, and levers N N, substantially as and for the purpose set forth.

No. 33,882.—J. W. FAWKES, of Decatur, Ill.—*Improvement in Steam Ploughs.*—Patent dated December 10, 1861.—The geared drum which supports the machine is provided at each end with toothed rims. The lower of the two rollers, which forms the windlass on which the

chains or ropes attaching the plough frame to the machine, are wound, is also provided at each extremity with gears. The shifting wheels, gearing with wheels at each extremity of the main driving shaft of the engine, are mounted on a shaft which rests in segmental bearings, moving in segmental guides on each side of the frame, and by means of a lever in reach of the driver, can be thrown into gear either with the toothed rims of the traction drum or the geared rollers. By this means the whole power of the engine may be applied either to propelling the machine forward, the plough frame in the mean time, if desired, remaining stationary, and the attaching ropes unwinding; or else the power may be applied solely to drawing the ploughs, the machine being kept stationary by spuds entering the ground at its sides. One chain is attached directly to the plough frame, the other to the bar extending longitudinally under it and provided with a screw and nut, by which the obliquity of the frame can be adjusted.

Claim.—First, the combination for the purpose of ploughing, ditching, &c., by steam, of a stationary and traction engine, windlass attachment and plough frames, substantially as set forth.

Second, the peculiar arrangement of the geared drum B, shifting wheels R R, and geared rollers Z' Z'', which form a windlass, substantially as shown and described, for the purpose of readily changing the engine from a traction to a stationary one, and *vice versa*, when said windlass and engine are used in combination with ploughs, for the purpose specified.

Third, the adjustable draught bar C' of the frame B', arranged substantially as shown, to admit of the adjusting of the frame B', for the purpose specified.

No. 33,883.—C. J. GLENN, C. BALL, and U. I. HACKETT, of Unadilla, Mich.—*Improvement in Stump Extractors.*—Patent dated December 10, 1861.—This invention consists in the employment of two levers, in connexion with cords so arranged that as the power is applied to the lower lever it operates to draw down the other lever, which latter can again be raised, and the chain which is attached to the stump may be moved by degrees until the stump is extracted.

Claim.—The employment of the levers C and D, the cords E and F, the block G, and the pulleys *a a d*, constructed and arranged for extracting grubs and stumps, substantially as specified.

No. 33,884.—W. H. GWYNNE, of Brooklyn, N. Y.—*Improvement in Machinery for Rifling Guns.*—Patent dated December 10, 1861.—This invention consists in the employment of a small hydraulic pump, by means of which a gun can be rifled without moving it from its place in the field or fortification. Water is forced through a pipe into the gun at the rear of the bore against a piston which drives the rifling shaft forward, with its cutters and attachments. The cutters are placed upon the end of a hollow shaft, within which latter is fitted an expanding rod against which the cutters rest. As the expanding rod is turned, its conical ends serve to drive out the cutters against the inside of the gun to any desired distance.

Claim.—First, the direct application of hydraulic pressure for the purpose of rifling guns.

Second, the combination of the hollow shaft F, expanding rod E, cutters D D, piston C, the whole operating substantially as described and shown.

No. 33,885.—THOMAS HOLMES, of Williamsburg, N. Y.—*Improvement in Embalming.*—Patent dated December 10, 1861.—This invention consists in the combination of a regulating spigot, with an air chamber containing a piston, cylinder, ejecting pipe, valve, and discharge pipe, which are placed over a vessel containing a fluid. The piston pumps up the fluid and forces it through the ejecting pipe and spigot, which operates as a regulator, into a discharge pipe, which is inserted into and fastened to an artery in one of the limbs of the body. The fluid is thus injected through all the vessels of the aorta and veins of the corpse.

Claim.—The combination of the chamber B, enclosed pump C, and regulating stop-cock H, in the manner and for the purpose stated.

No. 33,886.—BENJAMIN HOYLE, of Martin's Ferry, O.—*Improvement in Threshing Machines.*—Patent dated December 10, 1861.—This invention consists in arranging a shoe screen and fan over the straw carrier, to which the threshed and screened grain is elevated, when it is re-fanned and delivered from the machine into bags.

Claim.—In combination with a threshing machine, the combination and arrangement of the shoe J, screen *g*, and fan K, over the straw carrier, to re-screen and re-fan the grain and deliver the tailing to the threshing cylinder, substantially as described.

No. 33,887.—W. H. JOECKEL, of New York, N. Y.—*Improved Seat for Railroad Cars and Schools.*—Patent dated December 10, 1861.—Underneath the seat at each end are placed pendant plates, through which the screw by which the seat is attached to the support passes, thus allowing the seats a slight tilting motion. The side-pieces are also pivoted on the same screws, and can be turned to either side of the seat, the ends of the latter being recessed to receive the lower parts of the side-pieces, and thereby admit of the lips projecting over the ends of the seat so as to serve as bearings. The back-piece is made of two rectangular frames hinged together, and is swung between the side-pieces by pivots on the upper frame, thus affording a proper support in either position of the side-pieces.

Claim.—First, the reversible side-pieces *b b*, attached to the seat supports A A, at the points specified, in connection with the independent adjustable rest or back support D, arranged substantially as and for the purpose set forth.

Second, the combination of the side-pieces *b b*, and adjustable seat B, attached to the support A A, and arranged to operate as and for the purpose set forth.

No. 33,888.—H. W. JOHNSON, of Athens, Pa.—*Improved Washing Machine.*—Patent dated December 10, 1861.—A hollow cylinder rotates in a semi-cylindrical box, the inner side of which latter is corrugated. Each end of the shaft of the cylinder is provided with friction rollers, which rest upon inclined ways on the inside surface of the end of the box, thus allowing the cylinder, when the clothes accumulate in wads or knots on the side, to yield upwardly and sideways. Bearing strips, moving in vertical guides on each end of the ways, rest on the friction rollers, and by the action of the springs effect a return of the cylinder to its proper position. The holding bars on the surface of the cylinder are for the purpose of confining by one end, the smaller articles to be washed, the other end being curved in and out of the cylinder under a stationary bar. The clamping bars are omitted at one point of the cylinder, and an opening left for the insertion of larger articles.

Claim.—First, the inclined ways *b b* and friction rollers *a*, in combination with the bearing strips *e* and springs *f*, as and for the purpose specified.

Second, the clamping and stationary holding bars *i j* and *m*, in combination with the intervening, corrugated, or fluted sections *h*, as and for the purpose set forth.

Third, the clamping and stationary holding bars *i j* and *m*, in combination with the opening *n*, in the cylinder, as described.

Fourth, the hollow cylinder, with its opening *n*, in combination with the external corrugations *h*, and the concave corrugated or fluted bottom B, of box A, as and for the purpose described.

No. 33,889.—W. C. KNEELAND, of Brooklyn, N. Y.—*Improvement in Cigars.*—Patent dated December 10, 1861.—The nature of this invention will be understood from the claim.

Claim.—A smoking cigar produced from fine cut tobacco, enclosed first within a tube of silk or other tasteless and inodorous materials, and afterward covered with a wrapper of tobacco in the manner described.

No. 33,890.—EDWARD KIRK, jr., of New York, N. Y.—*Improvement in Cook Stoves.*—Patent dated December 10, 1861.—This invention consists in connecting the smoke-pipe collar with one of the lids or covers of the pot-holes of the stove, and so arranging the dampers therewith that the stove may be placed with its back against the flue, and project into the room as might be required in winter, or adjusted with one side against the flue, so as to avoid the radiation of heat in summer.

Claim.—Having the flanch E, which receives the smoke-pipe, formed on one of the lids or covers D of the pot-holes, and arranging the dampers and flues of the stove, substantially as shown, or in an equivalent way, to admit of a direct draught, or a circuitous one, around the oven C, in either positions of the lid or cover B, for the purpose set forth.

No. 33,891.—P. F. JONES, of New York, N. Y.—*Improvement in Operating Heavy Guns.*—Patent dated December 10, 1861.—Upon the platform which supports the gun, and concentric with the traverse circle, is placed a cogged circle. A little in front of the rear transom of the chasses is placed another transom, and these two afford bearings for a shaft which is provided at its rear extremity with a hand wheel, and between the two transoms with a pinion. This pinion engages with a cog wheel having its bearings in pendents from the transoms, and the cog wheel engages with the cogged circle, so that by rotating the shaft the gun can be turned in any direction. The cogged semicircle is moved by the worm on the inclined shaft, which has its bearings in the transoms of the carriage, and is operated by a hand wheel. By this means the gun is elevated and depressed with the expenditure of a very little power. A slotted gauge is fixed at one end to the worm rod, and is held in proper position by a double-headed index projecting from the cascabel through the slot, thus enabling the gunner to determine at a glance the degree of elevation.

Claim.—The cog circle B, in combination with the pinions L and N, or either of them, when constructed as described, and used in connection with the traverse circle A.

Also, the cogged semicircle C, attached to the chase or neck, and to the cascabel as described, in combination with the worm A′, as and for the purpose set forth.

Also, the fixed circular slotted scale or gauge D, when constructed and arranged substantially as specified.

Also, the cogged semicircle C′ and worm A′, in combination with the fixed circular slotted scale or gauge, as described.

Lastly, the cogged circle B, with its pinion or pinions, in combination with the cogged semicircle C′ and worm A′, as and for the purpose indicated.

No. 33,892.—HENRY KILLAM, of New Haven, Conn.—*Improved Stop for Coach Doors.*—Patent dated December 10, 1861.—The object of this invention is to prevent coach doors from opening beyond a certain limit, and so avoid contact with the back wheel. The invention

consists in the use of a curved metal bar, one end of which is attached by a hinged joint to the door, and the other end is attached to a slide, which is fitted on a horizontal rod secured to a rail to which the front part of the seat is attached, the rod being of such a length and placed in such a position as to admit of the door opening to a position at right angles with the side of the vehicle.

Claim.—The curved bar F, slide G, and guide rod H, arranged as shown, and applied respectively to the door A, and seat rail E, as and for the purpose set forth.

No. 33,893.—EUGENE LACROIX, jr., of Rouen, France.—*Improved Marine Propeller.*—Patent dated December 10, 1861.—The claim and engraving explain the nature of this invention.

Claim.—The combination of a propeller, mounted on a sliding frame, as set forth, so as to be raised and lowered within a recess in the stern of the vessel, so that said sliding frame shall receive its support from the sides of the recess, to strengthen and brace the frame and protect the propeller, as and for the purpose described.

No. 33,894.—C. W. LORD, of New York, N. Y.—*For a Pen and Pencil Case.*—Patent dated December 10, 1861.—The object of this invention is to prevent injury to the point of the pens or pencils while carried in the pocket by being crowded too far into the case.

Claim.—A pen-holder and pencil-case having metallic conical thimbles *b* arranged in the bottom of each of its several compartments, when constructed, combined, and operating in the manner and for the purpose set forth.

No. 33,895.—LEWIS MILLER, of Canton, O.—*Improvement in Grain and Grass Harvesters.*—Patent dated December 10, 1861.—The nature and object of this invention will be understood from the claim.

Claim.—First, in combination with the main frame having droping ends, a tie rod, that may serve as a hinge for the coupling arm and brace, substantially as described and for the purpose set forth.

Also, in combination with the widening out of the rear portion of the main frame and of the finger bar *a*, brace *m*, for the purpose of making a long hinge and strong connexion between the finger bar and coupling arm, without the use of an intermediate shoe, substantially as described.

Also, in combination with a finger bar that is made in two sections longitudinally, a cutter and cutter bar, also made in sections, so that the finger-bar and cutters may be shortened or lengthened for cutting grass or grain, as described and represented.

Also, in combination with a pivoted or hinged track clearer, the slot, set screw, and shoulder, or their equivalent, for the purpose of controlling the descent of the track clearer while it is in operation, and for allowing it to be swung up and held up, out of the way, when the machine is being transported from place to place, substantially as described.

No. 33,896.—H. W. MISKINNEN, of Kingston Mines, Ill.—*Improved Automatic Gate.*—Patent dated December 10, 1861.—The gate posts are so attached by links to a transverse rock-shaft mounted in the sides of the box, that when the rock-shaft is partially rotated in one direction the gate will be opened. A weighted bar is attached to the rock-shaft in such a manner as to turn it back to its first position, and thus cause the gate to close. The platforms on each side of the gate are so arranged that the weight of any animal or vehicle upon them acts on the transverse rock-shaft and throws the gate open. The hinged vibrating plank, when depressed by the weight of a vehicle, acts on levers, which elevates the rear end of the locking lever and allows the gate to open.

Claim.—In combination with the gates, the mechanism described for opening and closing them, consisting of the rock-shafts, arms, links, and weight, constructed and arranged as set forth.

Also, the hinged vibrating plank at the end of the platform, in combination with the levers *c c* and locking lever *a*, constructed to operate as described, for the purpose set forth.

No. 33,897.—CHARLES MONTAGUE, of Hartford, Conn.—*Printing Press.*—Patent dated December 10, 1861.—The larger cylinder contains the type plate, and is inked by rollers, each of which furnishes ink of a different color. Each roller is provided at its ends with rims or wheels, which fit into corresponding depressions or elevations on the ends of the larger cylinder, so arranged that during each quarter revolution of the latter, one of the rollers is brought against the type, all the others being raised from contact with it; by this means a paper on the smaller roller, which is arranged so as to revolve four times during one revolution of the larger cylinder, is printed with all the desired colors.

Claim.—First, the combination of two cylinders for letter-press printing in different colors, whereby a sheet once fed to the small cylinder is printed with various colors, before leaving the press, for the purpose and substantially in the manner described.

Second, interchangeable ink rollers, in combination with the cylinders A B, to ink different forms with different colors, for the purpose and substantially in the manner

No. 33,898.—D. A. MOORE, of Syracuse, N. Y.—*Improvement in Lamps.*—Patent dated December 10, 1861.—This invention consists in the arrangement of an internal tube, over which passes a sliding tube extending nearly to the bottom of the body of the lamp, the latter tube being provided with a tubular wick, and having also attached to it a wire or metallic strip, which works in a slit in the internal tube, and by means of which the wick is raised and lowered to regulate the flame.

Claim.—The entire arrangement for raising and lowering the sliding tube and wick, for the purpose of regulating the flame. In this arrangement I include the slit C in the internal tube B, the wire or metallic strip G, the attachment of this wire to the sliding tube D, the concave plate I, the funnel K, for guiding the wire or strip through the aperture in the plate.

No. 33,899.—CHARLES MORRILL, of New York, N. Y.—*Improvement in Bit Braces.*—Patent dated December 10, 1861.—To the bit head is secured a cam, which is caused to fit into a recess in the shank of the bit, where it is held in position by means of a flat spring secured to the bit head.

Claim.—The bit-brace head A and cam B, in combination with the spring D, as described, for the purpose specified.

No. 33,900.—C. L. PASCAL, of Philadelphia, Pa.—*Improvement in Military Hats.*—Patent dated December 10, 1861.—This invention consists in supplying the body of the hat with a flap of the shape shown in the engraving, and attaching it so that it can readily be used as a protection against the sun and rain.

Claim.—A military hat having the reversible flap B, formed and arranged substantially as described, when the ends of the said flap are constructed for attachment to, and detachment from, the peak or shade C, in the manner and for the purpose specified.

No. 33,901.—ALFRED POHNS, of Paris, France.—*Improved Camp Bedstead.*—Patented in France April 23, 1861.—Patent dated December 10, 1861.—This invention consists in fastening upon each side of a piece of strong canvas, which forms the bed packing, metallic tubes, into the ends of which the dowels of the supports are inserted, so that the bedstead can readily be taken apart and packed in a small compass.

Claim.—The X shaped supports provided with the metallic dowels or tenons *c e f f*, entering the ends of the metallic tubes B C D B′ C′ D′, in the manner and for the purposes specified.

No. 33,902.—DAVID POLLOCK, of Lancaster, Pa.—*Improvement in Connecting Rods for Locomotives.*—Patent dated December 10, 1861.—This invention relates to the construction of a connecting rod with straps and fixtures for locomotive steam engines and other purposes, designed to insure greater durability and to compensate for the wear of the different parts. The connecting rod may be formed of any number of bars, or of one piece of metal divided longitudinally into any number of parts, connected at their ends and diverging at the centre, at or near which are placed yokes, secured upon one side of the bar, and allowing the other side to slide freely in the yoke, so that the parts may be adjusted to any desired degree of flexibility. Attached to the rod are straps containing the boxes, the straps having an adjustable raised projecting inner surface, so that in case of wear it may be dressed or faced without affecting the rest of the rod. Keys are used on either side of the boxes, and placed in reversed positions, for readily adjusting the boxes. Projecting through the straps are oil boxes made with conical points, for the purpose of adjusting and confining the boxes apart and permanently in their seats. Set screws are also provided for the same purpose.

Claim.—First, a metal rod when made flexible and combined with a yoke or stops, for the purpose of regulating it to any degree of flexibility or tension, substantially as and for the purpose set forth.

Second, a strap with adjustable or movable inner projecting plate, when combined with a metallic rod and boxes, as and for the purpose specified.

Third, the raised or widened outer edges or sides of the strap, in combination with the metal rod and boxes, in the manner shown and described.

Fourth, corresponding projections on the sides at the end of the rod, in combination with a strap, as shown.

Fifth, the reversed keys, when combined with the metal rod, strap, and boxes, as set forth.

Sixth, the adjusting conical-pointed set screws and cup, for the purpose set forth.

No. 33,903.—J. H. POMEROY, of Jordan, N. Y.—*Improved Steam Engine Governor.*—Patent dated December 10, 1861.—At the ends of a transverse bar, attached to the top of the rod, which moves freely up and down in, but rotates with a hollow shaft, are placed two vertical discs or wings of metal. They are attached by screws, so as to admit of adjustment at different distances from the centre of the rod. The shaft is rotated by means of gearing connecting it with the engine. Upon the top of the shaft is placed a disc provided with cams or inclined edges, the inclinations being in opposite directions diametrically. On these inclines run wheels, the axles of which bear in pendents from the transverse bar. When the shaft is rotating at a certain velocity, the transverse bar partaking of its motion, as shown, the weight

of the arms is sufficient to keep the wheels at the lowest point of the inclines; but when the velocity is increased, the resistance of the air upon the wings causes the wheels to run up the inclines, thus raising the rod, and, by means of a lever attached to its lower end, operating a cut-off valve so as to diminish the supply of steam. As the velocity of the rotation of the shaft is diminished the wheels run down the inclines to their former positions, the rod descends, and the supply of steam is increased, and in this manner a uniform motion of the engine is secured.

Claim.—First, in such governor the combination of the wings K K with the inclines H H, arranged and operating substantially as described.

Second, the combination of the wings K K with the inclines H H, and the wheels or rollers *f f*, arranged substantially in the manner and for the purpose described.

Third, the combination of the wings K K, the inclines H H, the wheels *f f*, and the rod J, the whole operating for the purpose and substantially in the manner described.

No. 33,904.—R. D. PORTER, of Zanesville, O.—*Improvement in Currycombs.*—Patent dated December 10, 1861.—The teeth are made in separate sections, and are secured between blocks, the outer edges of which are grooved. Within the grooves is fitted a wire frame, the rear ends of which are secured to a metal plate corresponding in length to the blocks, and the front ends of the wires are twisted together to form a tang for the handle.

Claim.—The mode of fastening the teeth and other parts of the comb together in a compact and substantial manner, substantially the same and for the purpose set forth.

No. 33,905.—G. T. SAWYER, W. HOWLAND, jr., and T. C. HATCH, of New Bedford, Mass.—*Improvement in Setting Stills.*—Patent dated December 10, 1861.—Near the outer edge of the bottom of the still is arranged a series of diving flues communicating with a flue which extends around the setting at, below, or near the level of the lower part of the fire chamber, and connects in the rear of the still with the main flue or chimney; the object being to obtain a uniform heat under all parts of the bottom of the still.

Claim.—The arrangement of the equal drop flues D, with the vessel A, connecting flue E, and chimney G, as shown and described.

No. 33,906.—L. W. SHAFFER, of Shelbyville, Ky.—*Improvement in Ploughs.*—Patent dated December 10, 1861.—The novelty of this invention consists in the combination of parts designated in the claim, the separate features being disclaimed.

Claim.—The combination of the steel mould-board when made as described, the cast-iron standard provided with the flanges on its top, the recess for the point, the projection for holding the brace, the recess on the back side and removable plate H to fit the same, with the reversible point, when the whole are constructed and arranged as and for the purposes described.

No. 33,907.—W. H. SMITH, of Birmingham, Conn.—*Improvement in Breech-Loading Fire-arms.*—Patent dated December 10, 1861.—The breech piece is provided on its rear end with a tongue, which enters a slot in the breech-holder in the rear of the cavity into which the breech is fitted, and in the under side of this tongue is a notch for the reception of the upper end of the breech-operating lever, which also fits in the said slot, and which is arranged to work in a vertical plane parallel with the bore of the barrel on a fixed pin. The front portion of the upper end of the lever is formed like a cam to act upon the rear end of the breech to drive it forward, and the back portion of the upper end is formed with a tooth to draw the breech back. The lever has also a tongue at its upper end which operates to cock the hammer, so that the cocking of the hammer is effected simultaneously with the release of the sliding and swinging breech piece.

Claim.—The combination with the lever E, sliding and swinging breech B, and hammer F, of the tooth *i*, cam *j*, horn *k*, hooked tongue *f g*, and projecting plate *l m*, all constructed and arranged as specified and operating in the manner explained, to impart a simultaneous movement to the breech and hammer.

No. 33,908.—JOHN TILLEY, of West Troy, N. Y.—*Improvement in Machines for Chamfering Barrels.*—Patent dated December 10, 1861.—The rotary truss rings are mounted in annular stocks, and turn freely in them. The under side of these rings is made flaring, so that they hold the staves firmly in a cylindrical form, the ends projecting from the rings, which also act as the axles upon which the barrel revolves when acted upon by the cutters. Chamfering knives are located within the barrel so as to groove its inner surface outwards from its ends, while knives are placed outside the cylinder so as to cut grooves, and thereby form the bevelled ends of the barrel.

Claim.—The rotary truss rings B B′, when constructed and arranged with the end stocks C C′ mounted together, and one or both made movable, all substantially as and for the purpose set forth.

Also, the arrangement of the two groove-cutting chamfering knives J J′, and the two score-cutting levelling knives P P′, in combination with the apparatus for holding the revolving cylinder of staves, with both ends of the staves exposed, as and for the purpose set forth.

No. 33,909.—JOHN and WILLIAM TOOTHILL, of Wallingford, Conn.—*Improvement in Portable Cooking Apparatus.*—Patent dated December 10, 1861.—This invention consists in the employment of two pans having false bottoms, the lower one of the pans being provided with a lamp and grease receptacle; the object being to obtain a portable and simple cooking apparatus for the use of soldiers.

Claim.—The two pans A B, provided respectively with the false bottoms *b g*, draught openings *f k*, lamp and false side *i*, and with or without the lid or cover E, all arranged as and for the purpose set forth.

No. 33,910.—F. W. WEISS, of Mount Vernon, N. Y.—*Improvement in Military Cloaks.*—Patent dated December 10, 1861.—The coat is constructed of India rubber, and is provided with an air bag or compartment, which is inflated when the device is used as a mattress or float.

Claim.—The construction of a military cloak or a military coat in the manner described, so as to be capable of conversion at will into an air bed or mattress, substantially as set forth.

No. 33,911.—HENRY WEISSENBORN, of Newark, N. J.—*Apparatus for Collecting Zinc from Waste Gases of Furnaces.*—Patent dated December 10, 1861.—This invention consists in the application of a series of pipes and apartments to the conducting pipes for the waste gases between the blast furnace and hot-blast, welding and puddling furnaces, whereby the gases or vapors of zinc ore which is combined with the iron, are caused to deposit the mixture of zinc and its oxide in the said pipes, &c., from whence they can be readily removed.

Claim.—Separating zinc, through an apparatus, from the waste gases while conducted from the top of a blast furnace to steam boilers or hot-blast oven, in the manner substantially as set forth.

No. 33,912.—J. J. WELLING, of Cedar Falls, Iowa.—*Improved Device for Weaning Calves.*—Patent dated December 10, 1861.—This invention consists of a device to be applied to the nose of a calf when it is to be weaned. In applying the device the balls are inserted in each nostril of the animal's nose, with the jointed or middle part below the nostril and resting on the animal's lip, the prongs pointing forward.

Claim.—The jointed curved piece F, provided with prongs B, balls *a*, spring *d*, and standards *c*, the whole constructed and operating substantially as and for the purpose set forth.

No. 33,913.—A. H. WELLINGTON, of Woodstock, Vt.—*Improvement in Saw Gummers.*—Patent dated December 10, 1861.—This invention is designed for gumming large circular saws. Secured in the middle of a short shaft, which is journaled on opposite sides of the burr in the sides of the carriage, is a burr gummer B, so as to have lateral as well as rotary movement. Another shaft D is also journaled in the carriage, parallel with the former. The carriage is fitted and moved back and forth on guides attached on opposite sides of the upper horizontal portion of the clamps by means of a screw provided with a hand-wheel. This screw is turned down a short distance from the point to the side of the barrel and a spiral spring placed thereon, for the purpose of giving a yielding motion to the carriage, and, through it, to the bar.

Claim.—The carriage C, laterally sliding shafts B D, arm A, screw J, and spiral spring *f*, with the clamps I and pivot screw *c*, when combined, arranged, and operating in the manner described.

No. 33,914.—T. J. WILLETT, of Nunda, N. Y.—*Improvement in Pumps.*—Patent dated December 10, 1861.—Upon the piston-rod are placed two metallic discs, the one below and the other above the piston-block, and are allowed to play freely up and down upon the rod, their edges being bevelled off. The packing of the piston consists of a band of leather wider than the block, and fastened firmly to it. At the upward and downward strokes of the pump these discs are forced upon the leather, and thus render the packing tight. The pipes C D are secured to the sides of the cylinder by means of thimbles. The pipes are bound together by an encircling band, a wedge inserted between the pipes and band, keeping them closely together.

Claim.—The combination of a hand-lever O and platform M, oscillating together, when connected with the piston-rod *k* of a pump, substantially as described, so that the combined exertions of the muscular power of the arms and the weight of the body may be employed for working the pump.

Also, the employment of the discs *m m*, in combination with the packing *f*, rod *k*, and piston cylinder B', arranged and operating substantially in the manner and for the purposes set forth.

Also, the combination of the cylinder A, and pipe or pipes C D, thimbles *e e*, bands *g g*, and wedges *h h*, substantially as shown and described.

No. 33,915.—U. B. WINCHELL, of Oak Hill, N. Y.—*Improvement in Hold-back Hooks.*—Patent dated December 10, 1861.—This invention consists in combining a cam projection, or button on the cock-eye or loop, with a slot in the plate and a recess in the hook, by which, after the cock-eye and hook are united, they cannot be disconnected until the cock-eye is turned up into the position it would take after the braces are disengaged.

Claim.—The combination of the cam, projection, or button on the cock-eye or loop, and the recess, or recess and slot, in the hook and plate, when operating together in the manner and for the purposes substantially as herein described and represented.

No. 33,916.—PETER WRIGHT, of Dudley, England.—*Improvement in Wheels.*—Patent dated December 10, 1861.—Patented in England May 22, 1861.—Each half of the nave is formed separately by pressing wrought or scrap iron in a heated state in dies of the proper shape. By means of a hydraulic press a hole is then punctured in the naves for the axle. The halves are placed on each side of a disc of metal having a hole through it, and secured together by bolts passing through the flanges. The tyre is attached by bolting its projection to the disc. The wheel is constructed by placing the two halves of the nave together and securing on each side of the flange discs of cast metal, between which and the projection the tyre is riveted.

Claim.—First, the formation of the bosses or naves of wheels, in the manner described.

Second, the mode of combining or connecting together, as described, the several parts of wheels, with the exception of that portion of the single disc-wheel alluded to.

Third, the manufacture of wheels with cast-iron bosses or naves formed, and secured as described.

No. 33,917.—ALFRED DELESTATIUS, assignor to ANDREW RANKIN, of Philadelphia, Pa.—*Improvement in Manacles.*—Patent dated December 10, 1861.—One end of the opening bolt is provided with a screw which fits into the key, on turning which the bolt will be drawn back far enough to allow the projection *e* to slip off the projection *f*. When the key is removed the bolt is forced back by the spring. A ferrule prevents access to the lock, and resists any attempt at picking.

Claim.—The portion A of the ring with its rounded projection *f*, in combination with the portion A' of the ring and its projection *e*, the whole being constructed and arranged substantially as set forth, so that on closing and opening the ring the two parts will yield slightly and allow the projection *e* to pass over the projection *f*.

Second, the spring-bolt D, constructed and arranged within the chamber *c*, in relation to the projection *e*, substantially as and for the purpose set forth.

Third, the ferrule *q* and its flange *t*, arranged in respect to the chamber *c*, the entrance *d* to the same, the stem of the bolt D, and the spring *n*, substantially as described for the purpose specified.

No. 33,918.—D. L. EMERSON, assignor to MARY MANNY, of Rockford, Ill.—*Improvement in Harvesters.*—Patent dated December 10, 1861.—The wheel which is located at the extreme front end of the divider, is so arranged that its rim overlaps the point of the body of the divider and thus prevents grass and dirt from getting into its bearing. The pitman is made in one piece with the plate of the cutter by thinning the metal, thus securing a flexible connexion and doing away with the inconvenience of a hinge joint. To the edge plate of the shoe which forms the bearing of the cutter, is secured a guide consisting of a block, in which is a slot through which the latter passes, a set-screw securing it to the plate. By this means the guide may be set so as to compensate for the wear of the parts in contact with the cutter.

Claim.—The combination of a wheel with the body of a divider for a harvesting machine, in such manner that the wheel forms the front end of the divider, substantially as described.

Also, the combination of a reciprocating cutter of a harvesting machine with a stiff pitman, by means of a flexible connexion at the end of the pitman that is nearer the cutter, substantially as described.

Also, the combination of the shoe which forms the bearing of the cutter for a harvesting machine with an adjustable guide secured to said shoe, substantially as described.

No. 33,919.—JOHN MAGEE, of Boston, Mass., assignor to the NORTON FURNACE COMPANY, of Norton, Mass.—*Improvement in Stove Grates.*—Patent dated December 10, 1861.—This invention consists in so constructing and applying the grate to the lower plate of the fire-chamber as to admit of a rectilinear horizontal and a rocking vertical movement, so as to allow the coal to be screened without the ashes escaping into the room, and the coal to be readily dumped into a receiver below.

Claim.—Combining and arranging together the rectangular grate C, with guard plates D' D', and the ways *b*, so that the grate can not only be rocked on its pivots *c*, but be moved in the direction of its length, substantially as described.

No. 33,920.—E. M. and J. E. MIX, assignors to Themselves and JOHN GAUNTLETT, of Ithaca, N. Y.—*Improvement in Padlocks.*—Patent dated December 10, 1861.—The sector tumblers are each provided with a radial slot, which slots are not in a line with each other. The key is constructed with bits of varying lengths, so that when turned it acts upon the lower part of the tumbler, and serves to force all the slots into a line, by which the bent end of the dog is made to fit into the notch, thus unlocking the lock.

Claim.—The arrangement of the sector tumblers D, guide pin *k* of the key F, and the [illegible] substantially as shown and described, for the purpose of admitting the key F to be turned in either direction to unlock the lock, and also to prevent the internal parts of the lock being moved by the intersection of false keys, as set forth.

No. 33,921.—A. K. TUPPER, assignor to Himself, J. E. TUPPER, and J. W. GREEN, Pontiac, Mich.—*Improvement in Gas Retorts.*—Patent dated December 10, 1861.—The coke box is inserted into the body of the retort and is attached to the cover, so that it can easily be taken out and all the coke removed at once.

Claim.—The coke box or basket C, combined with the cover or cap B of the retort, substantially as set forth.

No. 33,922.—JACOB WIDMER, (assignor to H. B. BIGELOW,) of New Haven, Conn.—*Improvement in Machines for Cutting Roots.*—Patent dated December 10, 1861.—An adjustable cylinder is mounted eccentrically on the shaft, so that by partially rotating it, the distance between it and the cutters can be varied, thus enabling the root to be cut to any required degree of fineness.

Claim.—The adjustable eccentric cylinder C, in combination with the rotating heads or discs F G, knives H, and hopper B, arranged substantially as and for the purposes set forth.

No. 33,923.—G. B. ADAMS, of Cambridge, Mass., assignor to Himself and JAMES M. STONE, of Charlestown, Mass.—*Improvement in Supporting Tents.*—Patent dated December 10, 1861.—The claim and engraving explain the nature of this invention.

Claim.—Supporting a tent cover on a centre pole by means of detached braces, whose inner ends are held and made by means of shouldered recesses on said centre pole, and whose outer ends pass through the grummet holes in said cover, as represented and for the purpose set forth.

No. 33,924.—W. S. G. BAKER, of Baltimore, Md.—*Improved Camp Bed.*—Patent dated December 17, 1861.—The framework consists of a series of iron tubes connected together by means of hinges or knuckle joints, so that the whole may be folded together. The frame is strengthened by a brace which connects the lower part of the end supports and forms the frame of the lower bed. The canvas is secured to the longitudinal pieces above and the braces below.

Claim.—The jointed framework W W in combination with the jointed lower pieces *r r*, so constructed as to form frames for an upper and lower bed, which are supported by a hinged diagonal brace in such a manner that the lower frame can be disconnected and the whole folded up together, substantially as and for the purpose specified.

No. 33,925.—B. G. BARNEY, of Philadelphia, Pa.—*Improvement in Fastenings for Shoulder Straps.*—Patent dated December 17, 1861.—This invention is explained by the claim and engraving.

Claim.—The projecting lips *a* and *a'* on the under side of the shoulder strap A, in combination with the strips D and D' attached to the shoulder of the coat, the whole being constructed and arranged substantially as set forth, for the ready attachment of the strap to and its ready detachment from the coat, in the manner specified.

No. 33,926.—J. H. H. BENNTTT, of Hunt's Hollow, N. Y.—*Improved Hotel Annunciator.*—Patent dated December 17, 1861.—This invention consists of mechanism so arranged and connected with a knob in the room of a hotel, that as the knob is actuated by the occupant a bell will be sounded at the office, and a slide moved which discloses the name of the article wanted. A slide in the room is made to cover the names of articles generally wanted in a bedroom, and corresponds with a similar slide and names in the office.

Claim.—The arrangement of the plates *e*, slide C having the plate D attached, which is provided with a pin *d* and connected with the drum E or other spring, the slide L of the knob M, the bell I and the slides F, substantially as and for the purpose set forth.

No. 33,927.—DAVID DEXHAM, of Virden, Ill.—*Improved Portable Field Fence.*—Patent dated December 17, 1861.—The parts are so constructed and arranged as to admit of the fence being readily transported and set up or taken down.

Claim.—The combination of the horizontal rails A, cross pieces B, oblique braces C, projecting ends *a a*, supports D E E', mortises I, gains 2 and keys F, all constructed, arranged and employed in the manner and for the purposes specified.

No. 33,928.—J. H. DENNIS, of Louisville, Ky.—*Improved Mode of Collecting Fares on Street Railway Cars.*—Patent dated December 17, 1861.—This invention consists in constructing the car so that the passenger shall enter at the front end and pay his fare to the driver, or deposit it in a box under the eye of the driver, the exit being at the rear of the car, the door of which is under the control of the driver, thus dispensing with the services of a separate collector.

Claim.—The combination of the platformless rear with a door for exit only, the entrance platform and door in front, the strap C and fare-box E, all as explained, as and for the purposes set forth.

No. 33,929.—WATSON DUCHEMIN, of Charlottetown, Prince Edward's Island.—*Improved Hoisting Block.*—Patent dated December 17, 1861.—The block is provided with a ring or central bearing of considerable diameter cast upon or otherwise suitably attached to the shell

of the block and surrounded by a loose metal ring, (which serves the purpose of the sheave of ordinary block,) and between which and the central bearing, is interposed a series of friction rolls on which the loose ring turns.

Claim.—A hoisting block having a loose metal ring C which takes the place of the sheave, in combination with the central bearing *c* and the friction rolls *m*, operating substantially as specified.

No. 33,930.—R. N. EAGLE, of United States Army.—*Improvement in Stirrups and their Covers.*—Patent dated December 17, 1861.—The nature and object of this invention are explained by the claim.

Claim.—First, the locating of the point of suspension inside or toward the horse from a vertical line which is drawn from near the centre of and at right angles to the tread of the stirrup, substantially as set forth.

Second, in making this inclination adjustable by the sliding hub, or its equivalent, so as to suit the different circumstances under which it may be used, or the conformation of the user, substantially as described.

Third, the peculiar angular construction of the eye and hub combined and the manner of their attachment to the body of the stirrup, so as to impart to the tread of said stirrup an angular position horizontally, and also with reference to the body of the horse, thus allowing an easy entrance to the foot without twisting the stirrup leather, and causing, at the same time, the foot to move in the proper directions, substantially as set forth.

Fourth, hanging the stirrup upon the horizontal or nearly horizontal axis, which passes angularly over the tread in the direction of a line drawn horizontally from the little toe to the instep, substantially as set forth.

Fifth, constructing the sides or arms of a stirrup in a spiral form, with the inner side or arm shorter than the outer side or arm, so as to compel the toes and foot of the rider to turn inward toward the body of the horse, substantially as described.

Sixth, constructing the tread or marginal base of the stirrup with an irregular concavity in order to conform to the bend of the foot or boot, and with the front of said marginal base of the tread higher relatively than the base at the entrance of the stirrup, as and for the purposes described.

Seventh, the cover of the stirrup as described, said cover being made of one piece, the lower portion being turned inward from the bottom to cover the tread and lower part of sides, thus forming a guard and protection for the foot, substantially as set forth.

No. 33,931.—R. S. EDDY and A. O. MILES, of Nashua, N. H.—*Improvement in Locks.*—Patent dated December 17, 1861.—The object of this invention is to obtain a lock of simple construction which will be burglar-proof and capable of being changed, or having its tumblers so adjusted, that different keys will be required to open it, or a different adjustment of the bits of the same key.

Claim.—The combination of the tumblers D, frames *e g* and slotted and notched slides *d e f*, when constructed, arranged, and operating in connexion with a bolt B *a*, and key E *h j*, all as shown and described, and for the purposes explained.

No. 33,932.—W. H. ELLIOTT, of Plattsburgh, N. Y.—*Improvement in the Base Pin and Rammer of Revolving Pistols.*—Patent dated December 17, 1861.—The nature and object of this invention are explained by the claim and engraving.

Claim.—First, so constructing and arranging the base-pin *e* and lever *d* in relation to each other and to the barrel that the base-pin may be drawn out in front without first displacing the lever or any portion of the frame, when these devices are employed with a hammer, which is located in the centre of the frame, in the rear of the cylinder, as set forth.

Second, providing a groove *u* in lever *d*, so as to afford space for the reception of the base-pin *e*, as it is passed forward out of the cylinder, as and for the purpose specified.

Third, cutting away the projecting portions of the head of the base-pin, as represented at *v v*, when the base-pin, so formed, is employed with a grooved lever *d*, as and for the purpose set forth.

No. 33,933.—PHILO S. FELTER, of Cincinnatus, N. Y.—*Improvement in Guard Attachment for Locks.*—Patent dated December 17, 1861.—This invention consists in the employment of a spring in connexion with movable circular slotted discs and movable dials, a key and guard, by means of which the keyhole of a lock may be guarded so as to prevent the admission of a key when the lock is locked, and thereby prevent the lock from being accessible to picking or obtaining impressions for making a key.

Claim.—The bar or guard D, provided with the recess *a*, in connection with the notched discs G, spring F, provided with the projections *b d d*, and the key H, arranged substantially as and for the purpose set forth.

No. 33,934.—JOSEPH W. ELLIS, M. D., of Augusta, Me.—*Improvement in Teat Ventilator.*—Patent dated December 17, 1861.—The claim and engraving explain the nature of this invention.

Claim.—Susponding the open upper end of the tapering body A, of my improved tent, to a shoulder near the upper end of the tent pole D, by means of the perforated collar *g* and the ropes *p p*, but this I only claim when the expanded and conically-shaped tent cap C is used for the purpose of closing the open upper end of the said body of the tent, and when the shoulder upon the pole D is located in such a position that the upper end of said pole will support the said tent cap C in substantially the same relative position as represented.

Also, passing the tent cap guy ropes *h h* through a series of eyelet holes in the upper portion of the body of the tent, to the belaying buttons *l l* that are secured to the sides of the tent pole D, for the purpose of enabling the said tent cap to be confined to any desired position, for the purposes set forth.

No. 33,935.—M. A. FINNELL, M. D., of New York, N. Y.—*Improvement in Thermometers.*—Patent dated December 17, 1861.—The method of constructing this thermometer, is as follows: After having ascertained and marked upon a tube the range of the expansion of the mercury, or spirit within it, between the two points of temperature, it is secured by cement to a scale selected from a series of graduated scales printed upon paper or pasteboard, whose graduations correspond at these points with the marks on the tube. The tube is bent forward near the bulb so that the scale can be closely attached to the card without making a hole for the insertion of the bulb.

Claim.—The employment of card, bristol, or paste board, as the material for printed thermometer scales, as and for the purposes set forth.

Also, securing the tube to such scales by cementation, as set forth.

Also, in combination with tubes thus secured, the bend near the bulb, as set forth.

Finally, in combination with said printed thermometer scales, the described method of adapting the thermometer tubes to their appropriate ranges of indication.

No. 33,936.—ELISHA FITZGERALD, of New York, N. Y.—*Improvement in Pumps.*—Patent dated December 17, 1861.—At the bottom of the pump which is used to force any liquid into the lower part of a division pump, are two weighted valves made to open and close in opposite directions, so that when the pressure in the division pump becomes too great, one of the valves will open and allow the superfluous liquid to escape; and when there is too little of the liquid, the other valve opens to admit more, and thus obviates a partial vacuum.

Claim.—In combination with the division pump A B C, using for the pump D the two valves F and G, as described, and for the purposes set forth.

No. 33,937.—H. C. FOOTE, of Jersey City, N. J.—*Improved Portable Farm Fence.*—Patent dated December 17, 1861.—This invention consists in constructing the panels of portable farm fencing so that they can be set up and form an open structure or fence, and, at will, every alternate panel thereof can be readily disconnected and inverted or reversed, and the rails of the same slipped into the spaces between the rails of the panels, which are not inverted, in such a manner as to make double or compound panels which are closed and water-proof, and which will answer for erecting winter shelter for gathered produce of the farm, and for animals, &c.

Claim.—The manner, substantially as described, of constructing the panels of an open farm fence, whereby the panels can be doubled at will, so as to form closed frames with a rain-proof lap surface, for the purposes set forth.

No. 33,938.—N. S. GILBERT, of Lockport, N. Y.—*Improved Preserve Jar.*—Patent dated December 17, 1861.—This invention consists in the use of a cover provided with a neck surmounted by an elliptically shaped button, which is made to pass through a circular hole in the "bail," the latter being provided with wedge-like projections by which it is secured to a rim on the outer side of the top of the jar.

Claim.—The combination of the bail D with its wedge-like projections *b b*, the stopper A, with its elliptical button and the mouth of the jar, as specified, the whole being arranged as and for the purpose set forth.

No. 33,939.—S. R. GOING, of Brooklyn, N. Y.—*Improvement in Skates.*—Patent dated December 17, 1861.—Attached to that part of the skate stock which is under the hollow of the foot is a spring plate which, by means of set screws, can be adjusted so as to enable the stock to fit closely to the soles of boots or shoes having heels of different heights. Fastened to the stock are a heel and toe strap connected together and provided with eyelet holes for lacing.

Claim.—First, supporting the hollow of the foot by fitting the stock A to the shape of the boot or shoe, as set forth.

Second, attaching a plate or spring G to the stock A, to answer the purposes described.

Third, joining straps C and D at E, in combination with bed-plate A, as set forth.

No. 33,940.—W. O. GROVER, of Boston, Mass.—*Improvement in Sewing Machines.*—Patent dated December 17, 1861.—The thread passes from the tension apparatus through the eyes of two vertical and parallel plates secured to the side of the needle guide, and its bight

passes under the lower end of an edge plate secured between the eyes. Upon the needle bar is a fork, between the prongs of which, on the descent of the needle, the edge plate passes and draws down with it a bight of thread equal to twice the extent of motion of the needle, thus avoiding the formation of slack below the needle, and causing the thread to run straight from the needle's eye to the cloth. By having the edge plate near its lower extremity bent out of the vertical line away from the fork, the bight of the thread, at the time the needle-eye has reached the cloth, has slipped forward so that it is no longer retained by the fork, and therefore slips out and furnishes the required length of thread for the use of the needle.

Claim.—The combination of two eyes with an edge piece and a fork, operating on the thread on the down stroke of the needle, the whole constituting a contrivance operating substantially in the manner set forth, and performing the offices specified.

No. 33,941.—T. C. HARGRAVES, of Schenectady, N. Y.—*Improvement in Cutting Apparatus for Harvesters.*—Patent dated December 17, 1861.—The sickles are constructed in the usual manner, the lower one resting upon the finger bar. The fingers, instead of being provided with a cap or top, have a shallow recess made horizontally in their front parts to receive the ends of the cutters or teeth. The two sickles are kept in proper contact by means of screws passing through guides which project over the top plate of the sickle and underneath the finger bar, by which means the sickles are operated with a short stroke, the fingers protect the cutters from stones or stumps, and clogging is effectually prevented.

Claim.—The combination of the two reciprocating toothed cutters A A', recessed fingers C c, set screws *f f*, guard *g*, and plate *h*, all constructed, arranged, and operating in the manner and for the purposes shown and explained.

No. 33,942.—J. V. HARTER, of Plymouth, Ill.—*Improved Evaporating Pan for Saccharine Juices.*—Patent dated December 17, 1861.—The follower, which is made to conform on its under side to the bottom and sloping sides of the pan, has a slot running transversely through its under side, in which a slide or shoe and two springs are fitted and covered with a strip of goatskin, or other suitable material, by means of which a tight joint is formed, which prevents the liquor from passing beneath the follower from one side to the other. On each end and near the top, the follower is provided with friction rollers, which work against the under side of flanges and serve to keep the under side of the follower in close contact with the sides and bottom of the pan.

Claim.—The follower D, provided with friction rollers *c d*, springs *f g*, shoe *e*, and covering *j*, with pan A and flanges *a b*, when combined, arranged, and operating in the manner and for the purpose described.

No. 33,943.—H. L. HOPKINS, of Lebanon, N. Y.—*Improvement in Harvesters.*—Patent dated December 17, 1861.—This invention consists in a method of connecting the rack or finger bar to the main frame of the machine, so as to admit of its being turned around horizontally from one side of the frame to the other. The finger bar is supported on either side of the frame, and by means of a hand lever and its connexions, may be elevated from the ground and held at any desired position above the ground by the driver while in his seat. The driver's seat is connected with the frame in such a manner as to be turned upward upon a joint, and allow the tongue to be turned over upon its pivoted connexion, for the purpose of enabling the machine to be drawn in either direction.

Claim.—First, combining with the frame of a harvester a finger bar, which may be turned horizontally upon its pivoted connexion from one side of the frame to the opposite side, substantially as described.

Second, combining with said finger bar an elevating and supporting apparatus, so arranged as to perform the same service whether the finger bar projects to the right or left of the main frame, substantially as represented and described.

Third, in combination with a finger bar having its connexion with the frame of the machine, substantially as described, a hinged driver's seat and a reversible tongue co-operating together, whereby the machine may, at pleasure, be drawn in either direction, substantially as described.

No. 33,944.—OBADIAH HOPKINS, of New York, N. Y.—*Improvement in Mounting and Manœuvring Cannon.*—Patent dated December 17, 1861.—The nature of this invention is explained by the claim.

Claim.—Mounting two guns and their carriages upon a balanced frame, so constructed and arranged that they may alternately be elevated and depressed above and below a parapet and brought into a safe position to be loaded and discharged, in the manner specified and for the purposes set forth.

No. 33,945.—DANIEL HUGHES, of Rochester, N. Y.—*Improvement in Lamps.*—Patent dated December 17, 1861.—The upper part of the lamp, which is of a conical shape, is surrounded by a casing, so as to leave a space between it and the lamp, forming an air-chamber. At the lower part of this casing are holes covered with wire gauze, and upon its upper part is placed the globe, the purpose being to provide for a checked or controlled circulation of air.

Claim.—The air-chamber between the conductor and the body of the lamp, as recited, the gauze-covered holes or small perforations as the inlets for the air, and the globe shade, as they are arranged in relation to each other and for the purposes set forth.

No. 33,946.—C. W. IRWIN, of St. Louis, Mo.—*Improved Camp Chest.*—Patent dated December 17, 1861.—The chest is constructed with a series of compartments and sub-compartments fitting into and adapted to each other for holding and storing the various articles required in camp.

Claim.—The arrangement of the grooved cleats on the bottom of the chest and the compartments and sub-compartments in the inside thereof, the whole in respect to each other, substantially as and for the purpose set forth.

No. 33,947.—CHARLES KAISER, of New York, N. Y.—*Improvement in Machines for Polishing the Eyes of Needles.*—Patent dated December 17, 1861.—The nature of this invention is explained by the claim.

Claim.—First, arranging the wires upon which the needles are strung upon a frame, to which may be imparted either a revolving or reciprocating motion, in such manner that the needles will be forced by gravitation to slide longitudinally upon said wires, substantially as described.

Second, in combination with the foregoing, by the interposition of suitable mechanical obstructions, arresting the needles in their attempted revolution around the wire, and retaining them for a portion of the time with their long ends upward, in order that during such period of time that side of the eye of the needle which is nearest the long end may, by coming in contact with the wire and having the weight of the needle superimposed upon it, be polished equally with the other side of the eye, substantially as described.

No. 33,948.—J. L. LAIRDIESON, of Troy, N. Y.—*Apparatus for Varnishing Loom Heddles.*—Patent dated December 17, 1861.—This invention relates to the employment of rollers for applying the varnish and rolling it into the heddles, in combination with a system of reciprocating brushes for brushing off the superfluous varnish from and laying down the fibres, of which the heddles are composed; means of holding the frames containing the heddles during the brushing operation being provided.

Claim.—First, the employment, for applying the varnish in the varnishing of heddles, of a pair of rolls operating on opposite sides of the heddles to roll the varnish into the threads, substantially as specified.

Second, the employment, in combination with the varnishing rolls, of a system of reciprocating brushes, operating on opposite sides of the heddles, substantially as specified.

Third, the employment, in combination with the rollers *a a* and blocks *p*, or other equivalent supports, of a pair of eccentric clamps N N and a hook P applied to operate in combination with each other upon the frames B and connecting hooks of the heddle rails, substantially as set forth.

Fourth, combining the upper roller E' with the brush operating mechanism in such manner that the said roller may have a rotary motion imparted to it when the brushes are in operation, substantially as described.

Fifth, the arrangement of the varnish rollers, the reciprocating brushes and operating mechanism, and the rollers *a a*, or equivalent horizontal supports for the heddle frames, substantially as specified.

No. 33,949.—MARCUS LANE, of Washington, D. C.—*Improvement in Process of Making Iron and Steel.*—Patent dated December 17, 1861.—This invention is explained by the claim.

Claim.—First, broadly the simultaneous applications of agents other than decarbonizing agent for the purpose of refining and carbonizing metals, which shall act simultaneously not only to carry off the impurities in the metal in the condition of gases, but also the impurities of the metal in the condition of slag.

Second, broadly the simultaneous use of a carbonizing and decarbonizing agent in treating fused metals, which shall act to delay the final decarbonizing of the metal to a time at which the impurities shall have been removed by the agents employed.

Third, the introduction of carbon at a point above the surface of a mass of fused metal, while the metal is in rotary motion.

Fourth, the introduction of the gases from a refining furnace into the stack of a smelting furnace, in such position and in an inflamed state, as to assist in fusing the ore by being passed into the smelting furnace in immediate contact with the ore.

Fifth, causing the gases evolved from the fused metal, and which have accumulated in the refining chamber, to be forced into and among the fusing metal in the smelting furnace.

Sixth, the introduction of carbonate of soda and the alkalies at a point below the surface of the fused metal in a refining chamber while the metal is in a rotary motion.

No. 33,950.—W. A. LIGHTHALL, of New York, N. Y.—*Improved Method of Setting Tubes for Condensers.*—Patent dated December 17, 1861.—The apertures in the head sheet for the insertion of the tubes are enlarged at their outer ends for about two-thirds of their depth, in

order to form a space for the reception of a packing ring which consists of lead or other soft metal, and is secured in place by making the recesses of greater diameter at the bottom than top, and forcing in the packing ring until the space is completely filled. This packing secures the ends of the tubes perfectly tight, while at the same time it allows the proper movement of the tubes for their expansion and contraction.

Claim.—The use of the packing ring C, constructed and applied as described, in combination with the tube D and head sheet A, as and for the purpose set forth.

No. 33,951.—W. A. LIGHTHALL, of New York, N. Y.—*Improvement in Condensers for Steam Engines.*—Patent dated December 17, 1861.—This invention consists of a combination of a jet and surface condenser in one instrument, the steam exhausted into it from the engine being met at its first entrance by a jet of cold water, (produced by the condensation of the steam exhausted at each revolution of the engine and cooled down to the temperature of the sea, river, or other cooling water,) and afterwards fully condensed by contact with tubes through which passes a current of cooling water, and by passing through a body of water collected in the lower section of the apparatus.

Claim.—The use of a combined jet and surface condenser, constructed and operated substantially as set forth and for the purpose described.

No. 33,952.—W. A. LIGHTHALL, of New York, N. Y.—*Improved Steam Condenser.*—Patent dated December 17, 1861.—Between the engine and boilers is placed a condenser into which the steam exhausted from the engine is carried to be condensed, and from which the water of condensation is returned to the boilers by the action of the force pump of the engine. Within a shell or case of plate or cast iron is placed a series of tubes connecting at each end with reservoirs, the tubes being of the smallest diameter to allow the requisite amount of cooling water to pass through them. Transversely to the pipes are placed a series of division plates extending nearly across the space within the case, the open spaces at the end of each alternating in order to cause the steam to pass in a zig-zag direction through the condenser. Below the tubes is placed a perforated drip-plate through which the water of condensation passes into a receiving reservoir, from whence it passes to the force pump.

Claim.—The combination of the drip plate J, drip reservoir K, tubes E, and division plates G, with the case A, arranged and operated as and for the purpose set forth.

No. 33,953.—HENRY LOWE, of Baltimore, Md.—*Improvement in the Process of Recovering Soda used in the Manufacture of Paper Stock.*—Patent dated December 17, 1861.—The nature of this invention is explained by the claim.

Claim.—Reclaiming the soda from the spent solution of caustic soda after its action upon reeds, straw, or other fibrous material, by charging the solution with carbonic acid gas in a suitable vessel, so that the organic matter will be precipitated.

No. 33,954.—ARCHIBALD MCGUFFIE, of Rochester, N. Y.—*Improvement in Construction of Bridges.*—Patent dated December 17, 1861.—The arches of the bridge are formed in sections, each section consisting of a straight metal tube, the ends of which are fitted on joints. These joints consist of angularly shaped metal heads, provided with tenons and shoulders, upon which the ends of the tubes fit. Passing through the joints are rods to which are attached the ends of forked suspension rods, having secured to their lower ends bars upon which rest the ends of the sleepers; the said bars being braced, by means of rods secured at their ends, to the abutments.

Claim.—The combination of the angular tenoned heads *b* with the tubular-arched section *a*, in the manner shown and described.

Also, the arrangement with the heads *b* and sections *a* of the rods *c*, forked rods C, sleepers D, bars F, rods G *g* H, and bars I, as shown and described.

No. 33,955.—JOSHUA MERRILL, of Boston, Mass.—*Improvement in Construction of Stills and Still Bottoms.*—Patent dated December 17, 1861.—The bottom of the still consists of a plate formed between rollers from an ingot of cast steel, from which are cut circular discs of suitable size. These discs are then placed singly in a reverberatory furnace and exposed to the action of the fire, and when sufficiently heated are placed upon a former and beaten alternately with iron and wooden swages, by which they are brought to the proper shape before the metal cools. The bottom is then riveted or bolted to the body of the still.

Claim.—The formed seamless steel still bottom in combination with the body of a still, substantially as described.

No. 33,956.—LEWIS and JACOB MILLER, of Canton, O.—*Improvement in Grain Cleaners.*—Patent dated December 17, 1861.—The nature of this invention is mainly explained by the claims. To the upper and lower front part of the fan chamber are hinged adjustable wind boards, the lower one of which has a lip or return upon its under side for the purpose of preventing the grain from running over the trough or spout, which conducts it out of the machine.

Claim.—First, suspending the shoe of a grain-cleaning machine to the frame by means of straps that are hinged at one of their ends, and have a springing motion at the other end thereof for producing a regular but noiseless motion to the shoe, substantially as described.

Also, in combination with a shoe suspended by straps that are hinged at one end and have a spring motion at the other end, a spring pitman for vibrating said shoe without sudden jar or noise, substantially as described.

Also, the adjustable wind boards K L, the latter having a lip or flange *e*, constructed and operating substantially as described and for the purpose set forth.

Also, hanging the front of the riddle in adjustable bearings, so that it may be moved to or from the grain-directing board N, for the purpose of regulating the blast with regard to that end of the riddle, substantially as described.

No. 33,957.—JAMES MILLHOLLAND, of Reading, Pa.—*Improved Mode of Operating Giffard's Injector.*—Patent dated December 17, 1861.—This invention has for its object the placing of the injector in such a position, on a locomotive, that the supply of water to the instrument from the tank will depend upon the direct flow of water from the same, and not upon the aspiration of the instrument itself as usual; and it consists in operating the perforated tube and internal rod of the injector by means of levers so arranged and provided with jointed rods, that the said levers can be readily operated by the engineer, either together or independently of each other.

Claim.—Operating the perforated tube and internal rod of a Giffard injector by levers N and M, arranged substantially as described, the said levers being provided with the appliances described, or their equivalents, so that they can be operated together or independently of each other, as set forth.

No. 33,958.—G. W. MOFFIT, of Washington, Pa.—*Improvement in Car-Coupling.*—Patent dated December 17, 1861.—The link and hook of each coupler are secured within a box or draw-head by means of a vertical bolt upon which they are arranged to work loosely. Secured to the upper part of the inside of the box is an abutment which forms a rest for the upper end of the hook, and has jointed to it a drop piece near its projecting end which causes the link opposite to it, and which does not connect with its corresponding hook, to run over its upper face and abutment, whilst the under running link forces its corresponding hook downwards and affects the coupling.

Claim.—The application of a wrought-iron link A, a hook or catch B, and an abutment F, with a drop piece *f'*, to a buffing draw-head of a car, so that when two cars, to which the same are respectively applied, are run into contact with each other for the purpose of being coupled, the link of either will interlock with the catch or hook of the other, and thus complete a reliable connexion of the said cars, the same being constructed and arranged together to operate substantially in the manner described.

No. 33,959.—R. B. PULLAN, of Cumminsville, O.—*Improvement in Tents.*—Patent dated December 17, 1861.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—So constructing the centre joint, in combination with the folding thighs and legs, as to produce three different forms of tent, all as described and represented.

Also, the double parallel coverings H and I, when the ventilating space between them is made with a free and unobstructed egress at the top, as described and represented.

But I disclaim all modes of ventilating the space between the inner and outer tent, where the current is taken through hollow ventilating tent poles, and all other modes of ventilating such double tents, except where the upper part of said passage is left open, free, and unobstructed, as set forth.

No. 33,960.—H. W. PUTMAN, of Cleveland, O.—*Improved Clothes Wringer.*—Patent dated December 17, 1861.—To the lower ends of the standards which sustain the rollers are attached diverging arms, having at their outer sides semicircular ratchets, and near the lower ends of each outer arm is secured a cam provided with a handle which serves the purpose of a pawl, in connexion with the ratchet, to hold the cam against the outside of the tub, and by which the device is firmly held to the tub.

Claim.—The described side pieces B B' H, constructed as specified, in combination with the cross-bar M, ratchets C, and cams D, arranged and operating as and for the purpose set forth.

No. 33,961.—FERDINAND ROCHOW, of New York, N. Y.—*Improvement in Rotary Pumps.*—Patent dated December 17, 1861.—This invention consists of a hollow enclosing shell of an irregular form, two opposite side pieces, and a revolving shaft having movable pistons or abutments. The irregularity or eccentricity of the shell consists in the manner in which it is formed, thus dispensing with the usual method of filling in the inner sides of the casing. Between the shaft and the side pieces are placed two leather rings, fixed to the shaft by means of small metal rings or bands fitting in recesses in the side pieces, for the purpose of preventing leakage on the sides of the shaft; and, to prevent air from entering the suction apartment between the packing rings and side pieces, an elastic packing of hemp is set in the side pieces.

Claim.—First, constructing the enclosing shell or case A of an eccentric or irregular curve, such that all lines drawn from its opposite sides and through any one of the same point O' in

the axis or diameter of such curve, but at one side of the centre of such axis, shall be of equal length, so that abutments or pistons *v v* of the same length with such axis or diameter, revolving in such shell and passing through a shaft or cylinder having the centre of its axis in such point O', will always be in contact with the sides of the shell, without the use of any device to vary their length.

Second, the combination of the shell or case A when so constructed, with the enclosed shaft or cylinder R and its movable solid pistons *v v*, arranged in respect to such shell, substantially as described.

Third, the application and use of the packing rings *p' p'* and the elastic packing *q q*, in combination with the shaft R, side pieces S S, substantially as and for the purposes set forth.

Fourth, the whole machine or apparatus, constructed substantially as and for the purposes set forth.

No. 33,962.—W. G. SCHMIDLIN and J. W. DRISCOLL, of New York, N. Y.—*Improvement in Reflectors for Lamps.*—Patent dated December 17, 1861.—This invention is designed more especially for street lamps, and it consists in so arranging the reflector formed as sections of truncated cones as to reflect the light shining upwards, and cause it to be thrown off horizontally in either direction.

Claim.—The employment of the reflectors *d* and *e*, formed as sections of truncated cones or pyramids, and flaring away from the flame, substantially as and for the purposes specified.

No. 33,963.—W. A. SHANNON, of Washington, D. C.—*Improvement in Fire-Escape Ladders.*—Patent dated December 17, 1861.—The ladder is formed in sections so as to be folded in a zig-zag manner, and fastened at one end upon the inside of the window. At either side and at each joint of the sections are placed small arms, which work freely on the rounds and are let into the side pieces so as to admit of the ladder being folded, but when opened the arms fall out by their own weight and remain at right angles to the ladder so as to prevent the latter from coming in contact with the wall. To prevent the ladder from entering the lower windows, arms are made to fall out from the sides of the lower sections.

Claim.—An improvement in the construction of a sectional ladder, with arms or braces, Fig. 2, *e e*, working freely on the rounds and gravitating to their position, after the ladder has been passed freely and unobstructedly through the window, and the side braces, Fig. 1, *k k*, which are designed to prevent the ladder from being pressed into the lower windows.

No. 33,964.—W. A. SHAW, of Boston, Mass.—*Improved Bottle Stopper.*—Patent dated December 17, 1861.—This device consists of a hollow stopper made of elastic gum, open at its upper end, and having shoulders upon its outer sides made to correspond with shoulders within the neck of the bottle. It is placed in the bottle by means of a properly shaped piece of wood, which is inserted through the aperture at its upper end, by which the stopper becomes elongated and easily slips into place. Upon withdrawing the handle the shoulders of the stopper fit closely into the corresponding shoulders of the bottle.

Claim.—A hollow, elastic stopper, operating in the manner substantially as described.

No. 33,965.—WM. J. STILLMAN, United States Consul at Rome, Italy.—*Improvement in Rifle Sights.*—Patent dated December 17, 1861.—This invention consists in the employment of a sight having a reflecting surface placed at such an angle as to reflect to the eye light from one direction only, so that from whatever direction the light may fall upon it, none will reach the eye except that from one certain direction, and this always coming at the same angle prevents any variation in the aim from that cause. Combined with the above is an adjustable covering or protector, so arranged as to be opened or closed at will, whereby the sight may be made either a bright or a perfectly black one, as circumstances may require.

Claim.—First, the employment in rifled or other fire-arms of a reflecting sight C, so constructed and arranged as to reflect in the line of sight light from a given direction only, substantially as and for the purpose set forth.

Second, in combination with a reflecting surface C, an adjustable covering or protector B D, so arranged as to admit of being opened or closed at pleasure, for the purpose above specified.

No. 33,966.—A. STOLER and S. A. SISSON, of Bristol, Pa.—*Improvement in Cutting Apparatus for Harvesters.*—Patent dated December 17, 1861.—This device is designed for retaining the cutter in its proper place. The upper plate is countersunk to receive the conical head of a bolt, and in the lower plate is drilled a recess to receive a steadying pin of the bolt, by which means much weight of material is dispensed with, while sufficient strength of beam is obtained.

Claim.—The bolt D, when formed with a square shank and conical head, whether with or without the steadying pin at its base, as shown, when used in combination with the finger bar and cutter, in the manner and for the purpose specified.

No 33,967.—JOHN TRAGESER, of New York, N. Y.—*Improvement in Beer Coolers.*—Patent dated December 17, 1861.—This invention consists in the use of a horizontal tube, which receives the wort from the boiler, and is perforated chiefly at its upper surface. It is fitted within a

suitable vessel having a perforated bottom, and provided at its under side with serrated flanches, which are directly over the upper cooling tube for the purpose of effecting a perfect straining of the wort after leaving the boiler and previous to its distribution over the cooling tubes.

Claim.—First, a strainer for a wort or beer cooler formed of a tube A, perforated at its upper part, as shown at *a*, and used with or without the perforations *b*, substantially as and for the purpose set forth.

Second, providing the vessel B, in which the tubular strainer A is placed, with narrow boxes C C, one or more, at its bottom; the boxes having notched edges and arranged in relation with the upper cooling tube D, to operate as and for the purpose specified.

Third, having the bottom of the vessel B perforated with two rows of holes *d d*, when said perforations are used in connection with the boxes C C, for the purpose set forth.

Fourth, the combination of the tubular strainer A, vessel B, with its perforated bottom, the boxes C C, attached to the under side of the bottom of B, and notched as shown, and the cooling tubes D, all arranged as and for the purpose specified.

No. 33,968.—O. M. TRUAIR, of Mount Morris, N. Y.—*Improved Machine for Sizing Broom Corn.*—Patent dated December 17, 1861.—In the centre of the bed of the machine is a longitudinal opening, one side of which is stepped off at equal distances and depths, thus forming a series of transverse openings in the bed, which increase in length from one end of the machine to the other. Beneath these openings are partitions which serve as receptacles for the different lengths of broom corn. Near each end of the machine is journalled a roller, around which pass one or more endless bands connected together by slats, for the purpose of moving the broom corn along on the table and over the openings therein until it meets with an opening corresponding in length with the length of the broom corn. At the front end of one side of the machine is secured a knife, set obliquely, for cutting off the but ends of the corn, which latter is placed upon an inclined board, and is forced down by the revolving slats and carried over the bed.

Claim.—The bed A, receptacles J J, rollers E E′, bands F F, and slats *b*, furnished with projections, with the inclined board *d*, and knife *e*, when combined, arranged, and operating in the manner substantially as described.

No. 33,969.—JAMES TURNER, of Chicago, Ill.—*Improved Process of Rendering Lard and Tallow.*—Patent dated December 17, 1861.—The object of this invention is to save the fat from injury resulting to it by the action of the steam after it has been rendered, which is effected by removing the fat from the action of the steam as fast as it is rendered, and without interrupting the process of rendering. The apparatus used consists of a steam-tight tank provided with a float perforated on its lower surface and fixed upon the lower end of a movable pipe, which passes through a stuffing-box on the top of the tank. The upper end of this pipe is joined to an elbow-pipe, which is connected to a vibrating-pipe and joined to a standard, in which latter is also fixed a stationary pipe, all so connected as to leave a free communication from one to the other, by which means the tallow is forced by the steam from the tank through the pipes to any desired point.

Claim.—First, drawing off the fat as fast as it is rendered by the pressure of the steam in the tank.

Second, the process described of drawing off the fat as fast as rendered by the use of a steam-tight tank in combination with a strainer or float, and movable or flexible pipe, substantially as set forth.

Third, the mode of delivering the melted fat by the pressure of the steam in the tank to any part of the building, substantially as set forth.

No. 33,970.—FREDERICK YEISER, of Danville, Ky.—*Improvement in Meridian Instruments.*—Patent dated December 17, 1861.—Upon the upper end of a pillar or cylinder, which is attached to a base-plate, is secured a disc parallel with the base-plate. To the upper side of this disc is pivoted a horizontal bar, one end of which projects over the edge of the disc, and has attached to its projecting end, by a shaft or pivot, a bar G, moving freely and at right angles to the movement of the horizontal bar. To each end of the bar G is fixed a small plate at right angles to the same, in one of which is a convex lens, and on the opposite plate are two sets of parallel lines crossing each other at right angles, at a suitable distance apart, to embrace the sun's image, which falls between them from the lens.

Claim.—In combination with the bars G and plates J J′, the bar D and disc C, operated substantially in the manner and for the purposes set forth.

No. 33,971.—J. F. BROWN, assignor to Himself and ALLEN RICHARDS, of New London, Conn.—*Improvement in Skirt Supporters.*—Patent dated December 17, 1861.—This invention consists in the use of two jaws surrounded by an India-rubber band, and provided with a fulcrum pin fitted in a recess or groove formed in each jaw.

Claim.—The two jaws A A, encompassed by an elastic band or spring C, when used in combination with a detached fulcrum pin B, all being arranged as shown and described, to form a new and improved article of manufacture, for the purpose set forth.

No. 33,972.—JOSEPH DAVIS, of East Wilton, N. H., assignor to J. NODNE, of P borough, N. H., and W. EARL, jr., of Troy, N. H.—*Improvement in Carding Engines.*—P dated December 17, 1861.—Below the main card cylinder is arranged an endless apron or which runs upon three rollers, the journals of the middle one being placed in standards pro with slots and adjusting screws, by means of which the position of the belt may be adj in relation to the main cylinder, the object of the invention being to convey the fibrous terial, which is usually wasted, back to a position where the cylinder can again seize it also to discharge the dirt that may fall upon the apron.

Claim.—The specified arrangement or application of an endless traversing grid or a or the mechanical equivalent of either, with the main card cylinder of a carding engine to operate therewith substantially in the manner and for the purpose as described.

And in combination with the said endless grid or apron and the carding engine main card cylinder, the arrangement and combination of an adjustable supporter F same being to operate in manner and for the purposes substantially as set forth.

No. 33,973.—GEORGE GOEWEY, of New York, N. Y., assignor to Himself and E. MARSH, of Morrisiana, N. Y.—*Improvement in Churns.*—Patent dated December 17, 18 Within a tub is placed a vertical stationary perforated cylinder enclosing an upright having a spiral flange acting like a screw propeller at its lower end, to which is gi rapidly revolving motion which causes the milk within the cylinder, together with air above, to be driven through spaces at the lower end of the cylinder into the outer ti vessel.

Claim.—The use or employment of the perforated cylinder G, in combination with the screw-blade or propeller C, for the purpose of speedily producing butter and preventing as formed, being operated upon or agitated by the movement of the yet unconverted milk substantially as described.

No. 33,974.—E. J. HALL, assignor to Himself and E. P. STIMETS, of Highgate, V *Improved Spring Caster.*—Patent dated December 17, 1861.—To the top of the roller secured a screw-shaft, upon which is arranged a circular plate, having attached to it guide-rods passing through an intermediate plate to a third plate above, to which th permanently fastened. Upon the lower plate is placed a double spiral spring. The mediate plate operates as a nut on the screw-shaft, by which means the roller is adjus a level with the other feet, being raised or lowered as required.

Claim.—The combination and arrangement with an ordinary caster of the screw-shaft the spiral springs E, adjustable plates H and I, guide-rods G, substantially as and for the purpose specified.

No. 33,975.—K. H. C. PRESTON, assignor to E. P. RUSSELL, of Manlius, N. Y.—*Improvement in Harvesters.*—Patent dated December 17, 1861.—This invention consists in transmitting the requisite rate and force of motion from the driving-wheel to the crank-shaft through the medium of a series of rollers pivoted to the face of the driving-wheel, and a tapering single screw thread, which projects from the periphery of the crank-shaft, by which means the crank-shaft may be placed in such a position that its axis will be exactly opposite to a portion of an imaginary circular line passing through the centres of the pivots of the rollers.

Claim.—First, the tapering shape of the single screw thread *d*, which is employed for the purpose of enabling the desired amount of motion to be communicated to the crank-shaft substantially as set forth.

Also, when a tapering single screw thread is combined with a shaft, either directly through the medium of a tube or collar, acting upon said screw thread by means of a series of pivoted rollers and a driving-wheel for carrying the same, substantially as set forth.

Also, when a tapering single screw thread is combined with a shaft, either directly through the medium of a tube or collar, acting upon the said screw thread through the medium of a series of tapering pivoted rollers and a suitable driving-wheel, substantially in the manner set forth.

No. 33,976.—CHARLES ALGER, of Hudson, N. Y.—*Improvement in Breech-Loading Ordnance.*—Patent dated December 24, 1861.—The breech is composed of a spherical piece of metal inserted into a hemispherical seat in the gun in the rear of its bore, where it is confined by means of a hollow screw. The front end of the screw is countersunk so as to fit the rear seat of the spherical piece, which latter has an opening through its centre of sufficient size, and the internal calibre of the hollow screw being sufficient to permit the projectile or the cartridge to be inserted through them into the chamber of the gun; the spherical piece being furnished with suitable means of turning it to bring its opening transversely to the bore, and thereby make it close the rear of the gun and bring it opposite to the bore for loading at the breech.

Claim.—The spherical breech piece B, having a central opening *g*, and the hollow screw C, applied in combination with each other and with the barrel or body A of the gun substantially as described.

No. 33,977.—TRAUGOTT BECK, of Newark, N. J.—*Improved Apparatus for Bracing the Yards of Vessels.*—Patent dated December 24, 1861.—In any convenient place in the vessel is placed a barrel or barrels, so as to be rotated by any mechanical means. The barrels are constructed of double cones joined at their apexes, and have a screw thread running from one end to the other. The barrel is so proportioned to the bevel of the cones as to correspond with the increasing or decreasing length of the braces consequent upon the ends of the yard-arms turning in a circle, and increasing the angle on the one side, while it decreases in the same proportion on the other, the brace being around the smallest part of the barrel when the yards are square, and the diameter of the barrel being exactly adapted to the required variations in the length of brace.

Claim.—The combination and arrangement of the cone barrels and the tightener, with the braces, substantially in the manner and for the purpose specified.

No. 33,978.—S. A. BLAKE, of New York, N. Y.—*Improvement in Bonnets.*—Patent dated December 24, 1861.—This invention is explained by the claim.

Claim.—A bonnet, cap, or other head covering, the body of which is made of two or more thicknesses of muslin, or other suitable fabric, shaped or formed with a series of raised or embossed stripes, in imitation of straw or other braid, by means of suitable dies, in the manner set forth.

No. 33,979.—W. A. BROWN, of Philadelphia, Pa.—*Improvement in Railroad Car Ventilators.*—Patent dated December 24, 1861.—Near each end of the roof of the car is placed a horizontal tube connected to the roof by a vertical tube. The ends of the horizontal tube consist of hollow conical frusta, and at one end of the same is a deflecting partition consisting of spiral flanges. The lower end of the vertical tube or cylinder is fitted with an adjustable valve, so as to be closed when necessary. The motion of the car causes fresh air to enter the forward cylinder, while the impure air is expelled from that in the rear.

Claim.—A ventilator, consisting of the horizontal cylinder B, with its conical frustra b' b', the interior spiral passage formed by the partition d', in the rear end of cylinder B, with the vertical cylinder C, with its adjustable valve F, the said parts being constructed and combined together with each other, substantially as described, and applied near each end of the roof A, so as to operate in combination with the car in motion on a track, in the manner set forth and for the purposes specified.

No. 33,980.—JOHN O'BRYAN, of Owego, N. Y.—*Improvement in Truss Pads.*—Patent dated December 24, 1861.—The pressure, over the place required, is effected by means of two cups, a smaller one fitting inversely within a larger one, between which is placed a spiral spring, the end of the standard passing through the cup where it is attached to the flat spring and provided with a nut, by means of which the pressure of the spiral spring may be adjusted as required.

Claim.—The construction of the pad, consisting of the two cups, the helical spring, and the adjusting screw, all combined and operating in the manner set forth.

No. 33,981.—ANDREW BUCHANAN, of Jersey City, N. J.—*Improvement in Steam Engines.*—Patent dated December 24, 1861.—This invention consists in arranging one or more parallel motions in combination with a slide valve, in such a manner that the pressure of the steam is counteracted by the parallel motion or motions, and the valve sustained in the proper place, the said valve moving equally free when subjected to the pressure of the steam as when the steam is shut off. A valve with corrugated elastic sides and ends or with an elastic back is used in combination with an oblong bearing of the pivot, which secures the valve to the parallel motion, so that the valve when acted upon by the steam is forced down upon its seat with a certain yielding pressure determined by the elasticity of its sides before the pressure of the steam is counteracted by the parallel motion, and the jumping of the valve or leakage of steam is prevented. The frame which supports the parallel motion is so arranged, in combination with an elastic diaphragm, that, by the action of the steam on the under side of the diaphragm, the pressure on the back of the valve is diminished. In combination with the frame supporting the parallel motion is a bell-crank lever, so arranged that the frame, together with the valve, can be raised clear off its seat, and when the motion of the valve continues after the steam has been shut off, a cutting of the face of the valve or of the seat is prevented.

Claim.—First, the arrangement of one or more parallel motions E, in combination with a slide valve A, substantially as and for the purpose set forth.

Second, the employment of a valve A, with corrugated sides and ends, or with a corrugated back, in combination with the oblong bearing h of the pivot a, which connects the valve to the parallel motion E, substantially in the manner and for the purpose shown and described.

Third, the rising and falling frame D, in combination with the valve A, and with an elastic diaphragm F, or its equivalent, constructed and operating substantially as and for the purpose specified.

Fourth, the combination of the bell-crank lever G, or its equivalent, with the rising and falling frame D, and valve A, substantially in the manner and for the purpose set forth.

No. 33,982.—M. D. BUDD, of Roscoe, Ill.—*Improved Machine for Cutting Bolts.*—Patent dated December 24, 1861.—This invention consists in providing one of the jaws with a joint, with which is arranged a hook or fastening formed of two links placed one at each side of the two parts of the jaw, by which means the cutters can be distended further apart so as to enable them to grasp a larger bolt; the object being to provide a tool for cutting bolts or rivets which vary materially in size, without lengthening the purchase of the main lever upon the pivot jaw.

Claim.—Forming the jaw B of two parts *c d*, connected by a joint *e*, said parts *c d* being provided respectively with a hook *k*, and notches *l l'*, and all arranged substantially as shown, whereby the jaws A B, and their cutters C C, may be distended or spread apart at a greater distance than they otherwise could be, and admit bolts or rivets which vary materially in size, being cut with one and the same implement.

No. 33,983.—P. CAWHAUPE, of New Lebanon, N. Y.—*Improvement in making Capsules of Copavia.*—Patent dated December 24, 1861.—This invention relates to the moulds over which the capsules are formed, and it consists in turning the upper ends of the said moulds down in such a manner that a shoulder is produced, for the purpose of facilitating the closing of the capsules formed over the moulds. The capsules, after being filled, are dipped into the same composition of which they are made, so as to produce an even and seamless surface.

Claim.—First, the arrangement of the shoulder *c*, on the mould A, as and for the purpose as shown and described.

Second, dipping the capsules A, after they have been charged, into some suitable composition, as described, for the purpose of closing them, and to produce an even and seamless surface.

No. 33,984.—M. D. COHEN, of Philadelphia, Pa.—*Improvement in Coverings for the Head.*—Patent dated December 24, 1861.—The object of this invention is to provide a protector for the ears, neck, and back of the head, made independently of, and capable of being worn in connexion with, a cap or other covering for the head. The claim explains its general construction.

Claim.—The combination, with furlaps and apron, or either, of an elastic or adjustable belt in front and brace bands on top, arranged in the manner and for the purposes set forth.

No. 33,985.—JEREMIAH FINK, of Baldwinsville, N. Y.—*Improvement in Cultivators.*—Patent dated December 24, 1861.—To each side of the beam of a shovel plough is attached an angular brace, to which additional fine teeth may be secured, and their positions shifted on the brace as may be desired, by which means it is designed to combine a shovel plough with a small tooth cultivator in one machine, to be used as required.

Claim.—Combining with the beam A, of a shovel plough, the triangular or double brace wings E E, substantially as and for the purpose specified.

No. 33,986.—THADDEUS FOWLER, of Richmond Valley, N. Y.—*Improved Marking Brush.*—Patent dated December 24, 1861.—This invention consists of a reservoir or ink receptacle combined with a brush fitted at the end of a hollow arm extending from the reservoir and slightly inclined upwards, so that the brush is above the ordinary level of the liquid, when not in use; and the act of applying the brush to the article to be marked, and elevating the receptacle more or less above the brush, regulates the supply of ink without the use of valves or air-tight reservoirs.

Claim.—The hollow arm *c*, inclined upward from the reservoir *a*, and the brush *i*, at the end thereof, arranged in the manner and for the purposes specified.

Also, arranging the marking brush *i*, spring *o*, and screw *g*, substantially as set forth, whereby the flow of liquid is regulated by the motion of the brush, when pressed upon, as set forth.

No. 33,987.—H. N. FRYATT, of Belleville, N. J.—*Improvement in Refining and Crystalizing Sugar.*—Patent dated December 24, 1861.—The nature of this invention will be understood from the claim.

Claim.—The process, substantially as specified, for the admission and use in the vacuum pan of alcohol as a divisor of the crystals after the sugar has parted with all or nearly all its water of solution, for the purpose of rendering the mass miscible, and thus permit its easy flow or exit from the pan or evaporating vessel, and also be capable of netting or arranging its crystals, and parting with its fluid portions and coloring matter, whereby I am able to obtain a larger percentage of crystals than by the method before known.

No. 33,988.—D. C. GILLIAND, of Brownsville, O.—*Improvement in Cultivators.*—Patent dated December 24, 1861.—To the draught beam is rigidly attached a plate, to which are pivoted beams, so that their rear ends can be expanded or contracted at pleasure. Secured to the rear ends of these beams are removable shanks carrying shares or cultivator teeth, which admit of being readily detached, and mould boards and a rake may be substituted.

Claim.—The combination of the draft-beam A, hinged beams B and C, removable shanks *a b c*, and attachable shares H, shovels I, and rake J, all constructed, arranged, and employed in the manner and for the purpose shown and explained.

No. 33,989.—RHESA GRIFFIN, of Syracuse, N. Y.—*Improvement in Machines for Punching Boiler Plates.*—Patent dated December 24, 1861.—This invention consists in the employment of a series of bars with catches arranged between two parallel ways or tracks for a table or platform to travel on, thereby forming a rack for the latch or pawl to act upon; and a sway bar and its connexions with a cross-bar secured to the ways at right angles from one to the other. Upon the adjustable platform is a slide used in connexion with movable dies provided with holes, and a stationary die with a pin. The machine is designed for punching holes in cylinders of different sizes, so as to adapt the holes of an inner cylinder to conform to those of an outer one, to which the former is to be riveted.

Claim.—A series of rods or bars with catches or hooks arranged between two parallel ways or tracks for a platform to travel on, thereby forming a rack, as seen at *d*, Fig. 2, for the latch or pall *i*, as seen at Fig. 4, to set against when let down by slide Y; also, the sway bar *n*, and form of the catches, and the manner of connecting them to the sway bar *n*, as seen at Figs. 6 and 7; also the bar *m* over the sway bar *n*; also slide A, attached to the platform *a* by set screws *k k*, Fig. 3, with a slot in it, at right angles with the platform, as is also seen at A A, Fig. 5, with movable dies *t t*, with holes in them for the more expeditiously adjusting of the plates or sheets of iron, for the purpose mentioned.

No. 33,990.—WILLIAM HART, of Mayville, Wis.—*Improvement in Clock Escapements.*—Patent dated December 24, 1861.—This invention consists of an escapement composed of a single crank or eccentric wrist-pin, which derives a revolving motion by its attachment to the ordinary escape-wheel, spindle, or to any suitable rotating spindle gearing with the clock movement, and which works within a slot in the pendulum rod, such escapement dispensing with the escape-wheel and the verge and its appendages, whereby less power is required to run it, and it is rendered less likely to get out of order. The stud from which the above-mentioned pendulum pin is suspended is so applied in combination with the crank-pin or eccentric wrist as to make it self-adjusting for the purpose of bringing the pendulum always in beat, and thereby enabling an inexperienced person to set up a pendulum clock without difficulty.

Claim.—First, the escapement composed of a revolving crank-pin or eccentric wrist *c*, working within a slot 3, in the pendulum rod, substantially as specified.

Second, arranging the pendulum stud *e*, in a plate *f*, fitted to oscillate about the axis of the spindle which carries the crank-pin or eccentric wrist *c*, substantially as and for the purpose set forth.

No. 33,991.—G. C. HATHAWAY, of Plymouth, Mass.—*Portfolio and Writing Tablet.*—Patent dated December 24, 1861.—This invention consists in forming a tablet of strips of wood or other suitable material placed in juxtaposition and united by a sheet of any suitable flexible material extending over one face of the strips, which may be rendered rigid with respect to each other by means of clamps pivoted to the other face of the strips, and which admit of being turned so as to be folded up with the strips when not in use. Combined with the tablet is a portfolio of flexible material so disposed as to admit of paper being rolled up therein.

Claim.—The combination of a tablet, made substantially as described, with a flexible portfolio, for the purpose set forth.

No. 33,992.—O. T. L. HEINE and E. PRUSSING, of Chicago, Ill.—*Improvement in Journal Boxes.*—Patent dated December 24, 1861.—This invention consists in drilling a passage through the friction roller bolts, by means of which the oil will be conducted from the rollers to the shaft. Behind each roller box, and between them and the pedestal, is placed a wedge which, as it is driven in, will cause the roller box to move towards the shaft, so as to hold it steady and keep it in place.

Claim.—The construction of friction or anti-friction rollers, with holes or passages cut or drilled through them, for the purpose of receiving and distributing oil or other lubricating material upon the shaft, axle, pinion and rollers, in combination with the peculiar mode of wedging, in the manner and for the purposes described.

No. 33,993.—S. F. HODGE, of Detroit, Mich.—*Improved Stamp Head for Quartz Crushers.*—Patent dated December 24, 1861.—This invention is explained by the claim.

Claim.—The construction of stamp heads for crushing ores of two metals, one of which is of greater durability than the other, the two metals bearing the relation to each other described, so as to wear away unequally on the working face of the stamp head, and thus insure the gradual production of an undulating, corrugated or honey-comb crushing face.

No. 33,994.—W. H. JOECKEL, of New York, N. Y.—*Improved Seat for Schools, &c.*—Patent dated December 24, 1861.—This invention consists in so constructing the desks and seats, and connecting them together, as to render them readily adjustable to children of different ages or sizes, and which, by a simple adjustment, may be placed out of the way and admit of a free passage between them and the desks.

Claim.—The sliding, tilting, or vertically adjustable seat D, in combination with the vertically adjustable desk F, substantially as described.

Second, the plate H, provided with the pins *b b* and projections *c c*, and attached to the upper end of tube G, in combination with the guides *d d* attached to the under side of the seat D, and provided with the notches *e e*, the plate H being fitted between the guides *d d*, and all arranged as shown, to admit of the sliding backward and the tilting of the seat, as described.

No. 33,995.—W. B. JOHNS, of Georgetown, D. C.—*Improvement in Portable Fireplaces.*—Patent dated December 24, 1861.—This fireplace or stove is constructed of double side plates, having a space between them for the reception of sand or earth when in use, and hinged together, so that the parts can be easily folded for transportation. To the front part is hinged a mantel plate, so as to hang down and aid in increasing the draught.

Claim.—The construction of the fireplace or stove so that its sides and top shall fold compactly together for transportation, and, when set up for use, shall unfold, so as to furnish a space between the outer and inner plates to be filled with sand, or its equivalent, substantially as and for the purpose specified.

Also, the folding mantel plate E, in combination with the fireplace, as described.

No. 33,996.—W. B. JOHNS, of Georgetown, D. C.—*Improvement in Saddle Leggings.*—Patent dated December 24, 1861.—This invention consists in the employment of two pieces or flaps of rubber cloth, or other suitable material, of a size sufficient to extend down over the saddle, on each side, and cover the rider's legs, and so shaped that, when joined together at their upper ends, a space is left large enough to admit the body of the rider. Their front edges are connected together by straps and buckles. Between the straps is also an opening for the pommel of the saddle to project through. The article is designed to be used only when the rider is mounted, being attached to the saddle.

Claim.—As a new article of manufacture, constructing the leggings, with the adjustable openings C and B, to be attached to the saddle retained upon the person, in the manner and for the purpose substantially as specified.

No. 33,997.—G. S. KNAPP, of Dubuque, Iowa.—*Improvement in Harvesters.*—Patent dated December 24, 1861.—This invention consists in mounting the body of the machine on wheels which are provided with adjustable axles, so arranged that the axles of both wheels may be elevated and depressed simultaneously, and the body of the machine readily raised and lowered at the will of the attendant.

Claim.—The attaching of the axles of the wheels C D of a harvester, or other mounted agricultural machine, to arms *e* H, connected to the frame A or body of the machine, and to a shaft F, substantially as and for the purposes set forth.

No. 33,998.—L. G. KNIFFEN, of Worcester, Mass.—*Improvement in Mowing Machines.*—Patent dated December 24, 1861.—This invention does not admit of a brief description.

Claim.—First, the combination with the front inner corner of the main frame and rear inner side of tongue D of shoe I, coupling or connecting piece A, bent bearing piece O, its pulley *m*, chain *n*, and lever P, substantially as and for the purposes set forth.

Second, the combination of piece *q* and pivoted arm *x*, with shoe I and lever P, substantially as and for the purposes set forth.

Third, the combination of the rigid track piece L with a finger beam hinged to the front inner corner of a main frame, having a hinged tongue and the elevating lever, as and for the purposes set forth.

Fourth, suspending the front of the frame from the tongue by means of chain Z and arm R, substantially as described.

Fifth, the combination of the metal piece E and collar *c* with axle B and tongue D, as described.

No. 33,999.—L. G. KNIFFEN, of Worcester, Mass.—*Improvement in Cutting Apparatus for Harvesters.*—Patent dated December 24, 1861.—The heel of the finger beam is fastened to the heel piece, and to the rear of the under side of the finger beam are riveted the guards or fingers, after which narrow bearing pieces are placed on the front of the finger beam, at suitable distances apart, their front ends striking against elevations of the guard fingers. Over the bearing pieces and cutter bar and rear of the cutters are placed buttons, which are riveted to the finger bar. By elevating the cutter bar the heel thereof is enabled to be upset, whereby the joint of the pitman is brought down as low as the cutters, and in a horizontal plane with the joint of the heel piece, with the coupling piece attached to the main frame, by which means the cutter bar is allowed to work over the finger beam, and at the same time a strong joint to operate the cutters by is afforded.

Claim.—First, the combinations of the elevations *e* of the guards D, bearing pieces *d*, and buttons *h*, with the finger beam C and the cutter bar E, arranged and operating as and for the purposes set forth.

Second, elevating the cutter bar E and supporting it above the finger beam, in combination with the enlargement of the heel of the bar as seen at *k*, Fig. 1, as and for the purposes set forth.

No. 34,000.—C. B. LASHAR, of New York, N. Y.—*Improved Car Brakes.*—Patent dated December 24, 1861.—This invention consists in combining the bearing of the brake standard with the brake shoes in such a manner that the pressure exerted upon the brake standard is communicated to the shoes and made available in holding them in contact with the wheels. Combined with the brake mechanism is a thrust-plate which projects in front of the car bumper and operates the brake shoes, so as to cause them to act automatically by the slackening of speed in a preceding car. Two reversible thrust-plates are employed, one at each end of the car, capable of being placed in or out the line of motion of the bumpers, so that the position of each thrust-plate can be reversed when the direction of the car is changed.

Claim.—The combination of the bearing of the brake standard with the brake shoes, by mechanism, in such manner that the pressure exerted upon the said bearing is propagated to the brake shoes, substantially as described.

Also, the combination of the brake mechanism of a car with a thrust-plate that projects in advance of the bumper of the car, and intervenes between it and the bumper of the adjacent car when the cars are coupled together, substantially as set forth.

Also, the combination of the brake mechanism of a car with two reversible thrust-plates, each capable of being placed either in the line of motion of the bumper or out of that line of motion, substantially as set forth.

No. 34,001.—T. J. MAYALL, of Roxbury, Mass.—*Improvement in India-Rubber Mats for Floors, &c.*—Patent dated December 24, 1861.—This invention is explained by the claim.

Claim.—Constructing India-rubber or gutta percha mats, substantially as set forth—*i. e.*, providing the bottom or base with vertical projections or starts, of such form and relative arrangement that, while affording great facility for the cleaning of the mat, they shall act upon the boot or shoe not only as a scraper, but also as a brush, and that they shall adapt themselves to and fit into the irregularities or curved portions of the same, whereby every portion of the boot or shoe can be regularly cleaned.

No. 34,002.—WILLIAM MCKAIN, of Conoy Township, Pa.—*Improvement in Mode of Preventing the Destruction of Bolting Cloths in Flouring and Grist Mills.*—Patent dated December 24, 1861.—The shaft of the reel or bolter is surrounded with a wire screen connected at each end with a tin plate head by means of a flange, so as to leave a space between the plates and outer ends of the reel. The feeding spout has an open elbow entering the wire screen, in which elbow are flights or wings on the end of the shaft which serve to feed the meal into the screen, there being no communication between the screen and bolting cloth except through the meshes of the screen. To prevent clogging of the flour, tin tubes containing balls, are secured between the reel and screen, serving as knockers.

Claim.—The combination of the tin plate heads A and C by the flange B, with the wire screen F, the rolling tubular knockers M N, and arrangement of the winged shaft with the feeding spout I J, substantially as set forth for the purpose specified.

No. 34,003.—SOLOMON MEAD, of New Haven, Conn.—*Improvement in Hot-Air Furnaces.*—Patent dated December 24, 1861.—The novelty of this invention consists in the method of combining and arranging a series of external and internal spiral air passages, spiral fire flues, and separate conducting pipes. The use of spiral passages in themselves is disclaimed.

Claim.—The combination of the external spiral air passage A I C, internal spiral air passages P H C′, spiral flues S, and separate conducting pipes g and g^*, all arranged in the manner and for the purposes shown and explained.

No. 34,004.—S. G. MORRISON, of Williamsport, Pa.—*Improved Canteen.*—Patent dated December 24, 1861.—The upper part of the canteen is provided with a cape of gum elastic, or its equivalent, in the centre of which is a hole that fits over the mouth-piece of the canteen. By turning up the elastic cape it is made to serve as a funnel for filling the canteen, and it may also be used as a drinking cup.

Claim.—The application to canteens of a cone or cape of any elastic material, which, by inverting, may form a funnel on the canteen, or, removed therefrom, may be used as a cap, substantially as and for the purpose specified.

No. 34,005.—DAVID MUMMA, of Mount Carroll, Ill.—*Improvement in Heating Skin without removing the Hair or Fur.*—Patent dated December 24, 1861.—The nature of this invention is explained by the claim.

Claim.—Taking the skins in a dry or fresh state and immediately immersing them in the tanning liquid, so that sufficient of the liquid remains in the skins, when coming in contact with the second ingredient, to destroy the gum without loosing the fur, substantially as specified.

No. 34,006.—PETER NAYLOR, of New York, N. Y.—*Improvement in Casting Balls for Rifles.*—Patent dated December 24, 1861.—This invention consists in the employment of a punch held above the mould at a sufficient distance to allow the metal to be poured, which punch, on being forced towards the moulds, is designed to effect simultaneously the following

results, viz: consolidating the metal and thoroughly filling the mould by pressure on the semifluid mass; impressing its own form in the molten metal, and thus completely finishing it at the pouring point; filling or nearly filling the opening to the mould through which the metal was poured, so as to separate the ball and the surplus metal, and thus obviate the necessity of cutting off the surplus metal by a separate operation.

Claim.—The employment of a die 3, at the opening through which metal is poured, in the manner and for the purpose specified.

No. 34,007.—A. W. OLDS, of Green Oak, Mich.—*Improvement in Rotary Harrows.*—Patent dated December 24, 1861.—The harrow frame is constructed with radial arms, and from its centre arises a stem which forms a vertical axis for a sleeve or pipe. Upon the rear of this pipe is cast a flange, to which the axletree is bolted, so as to admit of a wedge being passed between the axletree and flange at one side of the other, for the purpose of determining the direction of the rotation of the harrow. The axles are attached to the ends of the axletree, and are provided with slots through which pass bolts, by means of which the axles can be adjusted vertically as may be required.

Claim.—First, the vertical and interchangeable adjustment of the wheels I I, by means of the axles G, bolts H H, and slots H' H', as and for the purpose specified.

Second, placing the flange D in such position in relation to the sleeve C that the axletree E may be of one entire piece, as described.

Third, the wedge F, when placed between the bottom of the flange D and the axletree E, as and for the purpose set forth.

No. 34,008.—S. J. PARMELE, of Killingworth, Conn.—*Improvement in Corn-Shellers.*—Patent dated December 24, 1861.—This invention consists in the employment of two ribbed cylinders, having different rates of speed, in connexion with a yielding corrugated concave placed vertically at the feed side of the cylinders, a yielding screen formed of parallel curved rods placed beneath the lower cylinder, and a guard door placed at the front of the upper part of the discharge spout, by means of which the corn is shelled and afterwards separated from the cob.

Claim.—First, in combination with one or more ribbed or toothed shelling cylinders B B', a concave pressure plate C, suspended by an universal joint D, substantially as shown, for the purpose of allowing the plate C to adjust itself to the ear of corn while being shelled, and insure the perfect shelling of the same, as set forth.

Second, the ribbed cylinders B B', concave pressure plate C, yielding screw F, and door or flap I, all combined and arranged for joint operation, as and for the purpose set forth.

No. 34,009.—F. C. PAYNE, of New York, N. Y.—*Improved Folding Bedstead.*—Patent dated December 24, 1861.—The nature of this invention will be understood from the claim.

Claim.—A folding bedstead formed by the combination of the three frames A B C with a mattress D, when arranged as shown and described, to admit of the frames and mattress being folded, and at the same time form a box or receptacle for the bed clothes, as set forth.

No. 34,010.—WILLIAM PIERPONT, of Salem, N. J.—*Improvement in Straw Carriers and Grain Separators for Threshing Machines.*—Patent dated December 24, 1861.—The elongated perforated apron is operated by the cranks in such a manner as to throw forward the straw as it rises, and then suddenly recedes as the cranks descend, the straw being thus gradually carried forward to the end of the apron. In order to prevent the straw from slipping back during this operation, a series of cleats are placed upon the top of the apron, into which are inserted curved teeth, which admits of the apron being considerably inclined during the operation. Directly below the perforated apron is secured a tight apron for the purpose of conducting off the seed as it falls from the perforated apron.

Claim.—First, the combination with the elongated, perforated apron, operated by a crank or cranks, having the peculiar motion described, of a series of feeding and separating teeth *b*, substantially as and for the purposes set forth.

Second, the combination of a tight apron J, with an elongated apron or pierced platform, hung upon and worked by a crank or cranks, having the peculiar motion described, connected with and forming a part of the threshing and separating machine, substantially in the manner and for the purposes described.

No. 34,011.—WILLIAM RANKIN, of New York, N. Y.—*Improvement in Tents.*—Patent dated December 24, 1861.—Upon the central pole is a metal collar, from which projects arms forming sockets to receive the upper ends of the bars which form the principal frame of the tent. These bars are formed in two parts connected by a hinge, and to each lower part is hinged a brace placed at a short distance above the ground. Hooks are also attached to each lower part of the hinged bars, and to the centre pole, to which sacking bottoms or mattresses may be secured for the purpose of forming berths above the surface of the ground.

Claim.—The combination of the lateral hinged adjustable braces C with the divided hinged bars B, and pole A, as shown and described.

Also, the combination of the sacking D with the hinged adjustable braces C, bars B, and pole A, substantially as shown and described.

No. 34,012.—RENSSELAER REYNOLDS, of Stocksort, N. Y.—*Improvement in Friction Clutches.*—Patent dated December 24, 1861.—This invention is designed as an improvement upon a clutch, for which a patent was granted to the said Reynolds on March 3, 1859. The invention consists in the employment of friction brakes, which act against the rim or inner periphery of a pulley attached to and turning with the shaft, the said friction brakes being connected with another wheel turning freely on the said shaft, in combination with the inclined planes of a bifurcated sleeve.

Claim.—Connecting the longitudinally sliding sleeve with the radial arms of the sector friction brakes, so that when the same is liberated the centrifugal force generated by the rotation of the brakes before the clutching takes place, will force the friction brakes outward against the inner periphery of the fast pulley, and thereby clutch the same; and by moving the sleeve longitudinally on the hub of the loose pulley in one direction, shall, by means of the inclined planes, cause the sector friction brakes to move away from and break contact with the inner periphery of the fast pulley, thus unclutching or disconnecting the pulleys by inclined planes, and clutching the same wholly by centrifugal force, substantially as described.

No. 34,013.—A. K. RIDER, of Hydeville, Vt.—*Improvement in Cut-off Gear for Steam Engines.*—Patent dated December 24, 1861.—This invention consists in controlling the closing movements of a cut-off sliding valve, which operates at the back and independently of the main valves, by means of two obliquely arranged sectors or segments carried by a rod or shaft, which derives a longitudinal reciprocating motion from the crank shaft of the engine and an oscillating motion on its axis from the governor or other regulating device, and so makes the sectors serve to effect the variation in the point of cutting off steam from the engine cylinder throughout the whole length, or nearly so, of the stroke of the piston.

Claim.—The employment for controlling the closing movements of the cut-off valves, of two obliquely arranged sectors or segments L L', on a shaft or rod K, which has a longitudinal reciprocating movement and an oscillating movement upon its axis, derived substantially as described.

No. 34,014.—E. P. RUSSELL, of Manlius, N. Y.—*Improvement in Harvesters.*—Patent dated December 24, 1861.—Near the edge of the driving wheel are secured conically-shaped or bevelled rollers. Upon the outer edge of the screw or flange of the shaft is formed an oval-shaped bead for the purpose of diminishing the bearing point of the rollers.

Claim.—First, the conical rollers, in combination with the oval or bead on the flange, as set forth and described.

Second, the oval or bead on the flange *c*, either without or with the bevel, from the shaft to the edge of the flange, as set forth and described.

No. 34,015.—JOHN SCHEEPER, of New York, N. Y.—*Improvement in the Mode of Securing Carriage-Wheel Hubs on Axles.*—Patent dated December 24, 1861.—The outer end of the axle, which is smaller in diameter than the journal, projects through the hub of the wheel, and upon the small end is fitted a flanged cap, secured in position by a pin passing vertically through it and the axle. The upper end of the pin is furnished with an eye, and is inserted in an opening in the cap and axle from above, through a hole in the band, which hole is then closed by a screw to prevent the entrance of the dirt. The inner part of the axle is provided with a collar, which is imbedded in the but end of the hub.

Claim.—The hub A, axle journal B, flanged cap D, pin *b*, collar *a*, band *c*, and screw *d*, when combined, arranged and operating in the manner substantially as described.

No. 34,016.—ANTHONY SMITH, assignor to Himself and W. H. BRODLEY, of Hartford, Conn.—*Improvement in Revolving Fire-Arms.*—Patent dated December 24, 1861.—The nature and object of this invention are explained by the claim.

Claim.—The improved method of ejecting the discharged cartridge by the simple act of inserting a fresh one in the rear thereof, substantially as described, by means of suitable depressions or openings of the frame or stock of the fire-arm, both in the rear and in front of the perforated cylinder, and in line therewith, the cartridge being held in place by the double retaining spring *i* and *i'*, or their mechanical equivalents, substantially as shown, so that the said arm may be kept in constant readiness for firing by the single operation of continued loading.

No. 34,017.—C. STAUF and C. J. STEINBACH, of St. Louis, Mo.—*Improvement in Portable Battery or Platoon Gun.*—Patent dated December 24, 1861.—This invention consists of a cylindrical metal disc of any required thickness, and having any desirable number of cavities answering as chambers, and made to revolve upon a central shaft secured to a suitable frame. In front of these chambers are placed any suitable number of stationary barrels arranged in a fan-like form in the segment of a circle, and corresponding with chambers of the revolving cylinder.

Claim.—A portable battery or platoon gun, consisting of a horizontal chambered cylinder, or its equivalent, with divergent barrels, all constructed and operated substantially as described and for the purpose set forth.

No. 34,018.—A. C. TWINING, of New Haven, Conn.—*Improvement in Apparatus for Cooling and Freezing.*—Patent dated December 24, 1861.—This invention does not admit of a brief description.

Claim.—First, the construction of freezing cisterns by pipes ranged in stacks, in combination with a supply or an exit pipe and connecting channels conducting the circulation from one stack or cistern to another, all substantially as above, and whether with or without the cocks.

Second, the four way cocks in their construction, and the combination of those cocks, or their equivalents, with the channels and the stacks, or with the stacks directly.

Third, the equalizer.

Fourth, the combination of the splash-pump with the cisterns by pipes and valves, substantially as above.

Fifth, the combination of an air-pump with a tightly covered vessel or vessels, to draw air from the vesels and contents during freezing by intervening pipes or connexions.

Sixth, the peculiar mode of connecting the stacks with the channels, and channels with the cocks or other pieces, as shown and described.

No. 34,019.—WILLIAM VAN ANDEN, of Poughkeepsie, N. Y.—*Improvement in Harvesters.*—Patent dated December 24, 1861.—The adjustable cutter bar holder is formed of two parts, one of which is firmly secured to the finger bar and slotted in such a manner that, in connexion with a bolt, it may be set to compensate for the wear of the cutter bar and cutters, and always hold the cutter bar closely upon the finger bar. Fastened to the main axle, by means of adjustable rods and bolts, are adjustable bars, the forward end of one of which is attached to the axle of the forward bearing wheel, which cutter sustains the weight of the finger bar when raised.

Claim.—First, the combination of the adjustable bolts O O with the adjustable bars R, and with the main frame and axle, for the purpose and in the manner described.

Second, the combination and arrangement of the adjustable cutter bar holder U and cutter V with the finger bar E, substantially as described, and for the purpose set forth.

No. 34,020.—J. H. WELLS, of Brooklyn, N. Y.—*Improvement in Automatic Primer for Fire-Arms.*—Patent dated December 24, 1861.—This invention consists in combining with a fire-arm a hopper for containing globules or pills of fulminating composition, and a slide for carrying the same from the hopper to the place of discharge, the parts being so arranged as to receive the pills in bulk and feed them singly to the point of explosion as they are required for the discharge of the piece. The hammer is connected with the slide in such a manner as to allow the latter to be readily disconnected from the hammer, so as to avoid any discharge by the accidental drawing back of the hammer or pulling of the trigger. The hopper is constructed in two parts, so arranged in reference to each other and with the slide as to insure certainty of action when the gun is put into any of the ordinary positions for firing.

Claim.—First, the combination with a fire-arm of a hopper and a slide, or its equivalent, which is operated by the cocking and letting go the hammer of the gun, and by other manipulation of the arm to bring and deliver the priming pills to and at the point of explosion, said parts being so constructed and arranged, as described, as to receive the said pills from the mass, without any previous arrangement in order being necessary, and to deliver them single in succession, as set forth.

Second, the combination of the slide 4, vibrating arm or catch 7, or other catch performing its functions, catch 8, and spring 10, substantially as described, for the purpose of attaching the slide to and detaching it from the hammer, so as to make it operative, or otherwise, as desired, for the purpose set forth.

Third, the construction, as described, of the chamber or reservoir, for containing the pills or priming material in two compartments so formed and arranged with reference to each other that the smaller compartment of the one which is over the opening in the slide will receive the pills freely from the other compartments, and have a tendency to retain them, substantially as set forth.

No. 34,021.—JOHN WILSON, of Chicago, Ill.—*Improved Manufacture of Fibrous Waterproof Fabrics.*—Patent dated December 24, 1861.—This fabric is composed of cotton or wool or other similar material first made in thin laps or layers, two or more of which are united by the introduction of a water-proof solution between the said layers, so as to combine a water-proof centre with a fibrous exterior.

Claim.—The new article of manufacture described, constituting a water-proof fabric, having both surfaces capable of securing a cloth finish.

No. 34,022.—JOSEPH WOOD, of Red Bank, N. J.—*Improvement in Frogs for Railroads.*—Patent dated December 24, 1861.—This invention consists in the employment of two bars at the termination of the track rails, extending to the point of the frog and connected to each other by a bar passing through the point of the frog in such a manner that the rail to take the weight is moved to its place by the flange of the wheel taking the other rail in whichever

direction the train may be moving, and in that position the rails of the frog remain until a train passes along on the other track or turn-out, when the rails are again moved and so remain until acted upon as before.

Claim.—The combination of rails *h* and *l* connected together and prolonged from the rails *c* and *b*, with the frog-point *n*, in the manner and for the purposes specified.

No. 34,023.—JAMES S. YERK and G. H. HEMING, of Tiffin, Ohio.—*Improvement in Bridges.*—Patent dated December 24, 1861.—The nature of this invention is explained by the claim.

Claim.—First, the use of longitudinally bisected tubes in the construction of truss frames, substantially as described.

Second, casting or moulding the panels of truss frames in longitudinal sections, each section embracing half of the upper chord and cross braces, and a portion of the shoe or heel post, as set forth.

Third, the manner above described of connecting the sections of one panel to those of another in truss frames when the said connexions embrace within themselves the shoes or heel posts, as stated.

No. 34,024.—J. A. DEBRAME, assignor to Himself and JEREMIAH GURNEY, of New York, N. Y.—*Improvement in Revolving Ordnance.*—Patent dated December 24, 1861.—Through a tapped hole in the rear of the cylinder frame is applied a breech screw having its axis directly in line with the axis of the barrel and provided at its outer end with a lever or handle, by which it is turned. Between this screw and the cylinder is interposed a loose disc fitted in a recess in the frame for the purpose of closing the rear ends of the chamber. A vent is made through the screw and disc, and the nipple is provided at the outer end of the screw for the reception of a percussion cap.

Claim.—The combination of the screw F, constructed as set forth, so as to serve as nipple vent and cylinder presser, with the frame A and revolving chamber C, all as set forth.

Also, the combination of the perforated disc G with the said screw F, frame A, and cylinder C, as set forth.

No. 34,025.—J. A. DEBRAME, assignor to Himself and JEREMIAH GURNEY, of New York, N. Y.—*Improvement in Breech-Loading Ordnance*—Patent dated December 24, 1861.—The axis pin is arranged parallel with the bore of the barrel, and at such a distance above the said barrel that a chamber in line with the barrel is directly under the said pin. That portion of the pin in the front part of the frame is larger than the portion passing through the cylinder, so as to fit against the end of the cylinder with a shoulder. Upon the rear end of this pin is a screw thread which, by means of a nut and lever in connexion with the shoulder, serves to make a gas-tight breech-joint.

Upon the rear end of the cylinder is fitted a ring connected by a fork and pin to a lever which moves laterally to the carriage under the frame, and turns the ring upon the cylinder. Attached to the ring by means of a spring is a tooth which works through a hole in the ring and enters notches in the cylinder corresponding in number with the number of chambers, so that the ring is moved independently of the cylinder in one direction, but causes the cylinder to be turned with it when moved in the opposite direction.

Claim.—First, the axis pin *a*, having a shoulder *r*, and fitted to the cylinder frame F, and rotating a many-chambered cylinder, substantially as described, and furnished with a screw thread, receiving a nut M, applied in rear of the cylinder frame to operate substantially as set forth, for the purpose of making a tight joint between the open rears of the chambers and a breech formed by the rear end of the cylinder frame.

Second, the combination with the rotating many-chambered cylinder H of the ring N, the lever O, the spring tooth W, and the stop pin Z, said tooth and pin operating in combination with notches *y y* in the cylinder, substantially as and for the purpose specified.

No. 34,026.—B. A. MANN, assignor to JEDEDIAH WILCOX and H. H. MILLER, of West Meriden, Conn.—*Improvement in Machines for Clasping Hoops to Ladies' Skirts.*—Patent dated December 24, 1861.—This invention consists in the employment of a hopper and feeding plate so constructed and arranged, in connexion with a clinching mechanism, that the clasps, as the machine is operated, will be fed down in a proper manner to the clinching device, which latter is operated by the foot of the attendant, the hoops and tapes being presented to the machine by the hands of the attendant.

Claim.—First, the inclined hopper F and feeding plate G, when arranged so as to be adjusted by the rods D I, and used in connexion with a clinching device, for the purpose set forth.

Second, the bars *i j* placed obliquely on the feeding plate G, provided with grooves *l*, and used in connexion with the slot or opening *p*, substantially as and for the purpose set forth.

Third, the passage way for the clasps K formed of the plates *m m*, attached to the head or bar H and groove *n* made therein, when said passage way is used in combination with the feeding plate G and the clinching device, and arranged therewith, as and for the purpose specified.

Fourth, the clinching device, formed of the plate J attached to lever B, or its equivalent, and provided with the ledge *w*, having a concave or grooved upper surface, in combination with the clasp sustaining plates I I attached to the head or barrel H, and arranged in relation with the plates *m m* and groove *n*, substantially as and for the purpose set forth.

No. 34,027.—CONRAD MARQUARDT, assignor to M. L. MARQUARDT, of Rhineback, N. Y.—*Improvement in Whiffletree Attachment.*—Patent dated December 24, 1861.—This invention has for its object a means for readily adjusting the whiffletrees upon the doubletree nearer to or further from its bolt, so as to regulate the draught for either horse. The rear edge of the doubletree is provided with notches or racks at each end, in which the whiffletree links or clasps are fitted and retained in position by means of springs placed on pins and attached to the rear edge of the whiffletrees.

Claim.—Attaching or connecting the whiffletrees D D to the doubletree A by means of the links E E, racks B B, and the spring F F, arranged substantially as set forth.

No. 34,028.—J. F. LEITCH, assignor to O. D. CARTER, of Green, N. Y.—*Improved Fan Blower.*—Patent dated December 24, 1861.—Between the sides is secured the outer rim of the case, in such a manner as to form an air-tight joint. The fan room is made in a circle by means of a rim or flange secured to the sides, and extending so as to fill about three-fourths of the space between the sides, thus forming a partition between the fan room and the scroll air passage, with the exception of a narrow opening or slit in the centre, extending around the fan room and closed at one point, thus forming a wind cut-off where the scroll commences, and preventing any air from being carried around by the wings.

Claim.—The circumscribed fan-room scroll, air passage, and wind cut-off, all in combination, as and for the purpose specified.

No. 34,029.—R. B. PULLAN, assignor to J. D. PULLAN, of Cincinnati, O.—*Improvement in Lamps.*—Patent dated December 24, 1861.—The body of the lamp is provided with an endless screw, upon which works a travelling nut. To this nut is secured an arm which, in connexion with a 'bayonet' catch, serves as a fastening for the wick tube and as a means of raising and lowering the wick.

Claim.—The making of the double concentric tube *a b* constituting the inner and outer walls of air passage *e*, by striking it up from a single plate of sheet metal, in the manner described.

Also, the combination of the bayonet catch F with the arm *f* of the travelling nut *d*, both as a fastening for the wick tube and as a means of raising and lowering the wick, substantially as described.

No. 34,030.—E. D. ROSECRANS, assignor to Himself, J. S. HULL, and NELSON GATES, of Cincinnati, O.—*Improvement in Lamps.*—Patent dated December 24, 1861.—Within the body of the lamp is arranged an air pump which forces the air into the reservoir above the surface of the oil, for the purpose of affording a constant and steady supply of oil to the wick. In the side of the burner tube is an opening through which atmospheric air is admitted, so as to mingle with the gas. To the burner tube are attached wings of a curved form constituting the heater.

Claim.—The employment of atmospheric pressure upon the surface of the fluid in the reservoir *x x* by means of the air pump *w w'*, when used with the tubes *o o f f* and valve at *d'*, in a lamp, substantially as described.

Also, the air pump *w w'*, when used in combination with the reservoir *x x*, filling tube *p*, and escape tube *r*, in the manner and for the purposes substantially as set forth.

Also, the employment of the burner and heater, when constructed with curved wings *b b*, as described, when used with the tube *a* having an opening *a*, in the manner substantially as set forth.

No. 34,031.—C. H. SAYRE, assignor to Himself and C. E. BARNARD, of Utica, N. Y.—*Improvement in Projectiles for Rifled Ordnance.*—Patent dated December 24, 1861.—The claim explains the nature of this invention.

Claim.—The employment, in combination with a lead en or other soft metal band, applied to a cast-iron projectile of a lining tube *b* of wrought or malleable iron, or other suitable tough or tenacious metal, attaching the said band to the head or body of the projectile, in the manner substantially as specified.

No. 34,032.—THOMAS SHAW, assignor to Himself and B. HART, of Philadelphia, Pa.—*Improvement in Revolving Fire-Arms.*—Patent dated December 24, 1861.—To the inner side of the rear of the handle is screwed one end of an arm consisting of a piece of steel, the other end of which locks into a projection or lug on the pawl which communicates with the hammer and trigger, for the purpose of keeping the hammer off from the caps and preventing accidental explosion of the cap.

Claim.—The combination of the pawl G with the arm K, substantially as described and for the purpose set forth.

No. 34,033.—JOSEPH YOUNG, assignor to J. B. and J. YOUNG, of Varick, N. Y.—*Improvement in Machines for Removing the Husks from Corn.*—Patent dated December 24, 1861.—Two revolving cutter knives are placed at the end of a feed chute, and the material, when cut, falls upon an endless conveyor, from whence it drops upon a riddle. In passing from the conveyor to the riddle the product is subjected to the action of a fan blast generated by the revolving fan.

Claim.—The combination of the cutting apparatus with the fan blast and separator, arranged and operating substantially as and for the purpose set forth.

No. 34,034.—EDWIN CORNER, of Columbus, O.—*Improvement in Beehives.*—Patent dated December 24, 1861.—This invention will be understood by reference to the claim and engraving.

Claim.—Hinging the comb frames in steps, so that the several frames may be swung open at the same time, as described, in combination with the hinged door and stationary central frame, substantially as and for the purpose specified.

No. 34,035.—JOHN DEAN, of Worcester, Mass.—*Improvement in Mats for Daguerreotypes, &c.*—Patent dated December 24, 1861.—This invention has for its object, principally, the economizing of material used in the formation of mats or metallic pieces for furnishing the ornamental border for the lining of photographic and other cases. The invention consists in forming the mat of such a shape that a larger number of regular sized mats can be cut out of a given sized plate with less waste of metal, and so that the mat can be supported upon the clipped corners of the same, thus preventing the opening from pressing upon the surface of the picture.

Claim.—Forming from sheets of metal mats, with their corners clipped or cut off, and finishing the said corners so as to conform with the outer bevel, and to form supports for sustaining the said mats upon the photograph or other plates, in the manner and for the purposes set forth.

No. 34,036.—G. F. HOLLAND, of Leominster, Mass.—*Improvement in Mode of Attaching Breeching to Shafts of Carriages.*—Patent dated December 24, 1861.—Attached to the hold-back straps that have usually been secured directly to the shafts is a spring clutch, which so engages with a hook, having a suitable stud or projection placed upon the shafts, as to be immediately released from the same, should the traces become accidentally unhitched or broken.

Claim.—The particular combination and arrangement described, the same consisting of a spring clutch attached to the harness, and a fixed stud or standard permanently affixed to the shaft, the two operating together, substantially as described.

No. 34,037.—G. W. KEENE, of Lynn, Mass.—*Improvement in Heels for Boots and Shoes.*—Patent dated December 24, 1861.—This invention is explained by the claim.

Claim.—As an article of manufacture, a heel formed of successive rises, united by nails, which are driven and clinched at the time the heel is compressed, as set forth.

No. 34,038.—ROBERT KERSHAW, of Philadelphia, Pa.—*Improvement in Gigg Mills.*—Patent dated December 24, 1861.—This invention relates to an improvement upon the patent of James Shaw, granted August 28, 1860. Its nature is explained by the claim.

Claim.—As an improvement on James Shaw's patent of August 28, 1860, raising a nap on textile fabrics by means of two or more card rollers, the latter being caused to revolve at such a speed, and the fabric being so guided by plain rollers that an alternating slackening and tightening of the said fabric will take place, thereby causing the wires of the rollers to penetrate the fibres, and effectually raise the desired nap.

No. 34,039.—J. O. DORIS, of Philadelphia, Pa.—*Improvement in Fertilizers.*—Patent dated December 24, 1861.—The several substances, as named in the claim, being properly prepared and mixed, are subjected to a grinding process which reduces the mass to powder, in which state it is used for fertilizing the soil.

Claim.—The improved fertilizing compound, composed of coal ashes, animal manure, animal matter, and vegetable matter, such as named, in the manner and the proportions specified.

No. 34,040.—SYLVANUS SAWYER, of Fitchburg, Mass.—*Improved Fuse Hood for Shells.*—Patent dated December 24, 1861.—This invention consists in the application to the fuses of shells, of a thin circular concave plate or disc, placed concentric with and at a little distance from the outer extremity of the fuse, in which position it is supported by any convenient attachment to the fuse stock, its purpose being to deflect or conduct a part of the flame in which the projectile is enveloped after it leaves the muzzle of the gun, directly upon the fuse, to insure its ignition.

Claim.—The employment of a hood, or other equivalent device, in combination with a fuse, substantially in the manner and for the purpose described.

No. 34,041.—SYLVANUS SAWYER, of Fitchburg, Mass.—*Improvement in Mandrel for Loading Case Shot, &c.*—Patent dated December 24, 1861.—This invention consists in forming a central chamber or cavity for the bursting charge within the mass of missiles, by means of an instrument termed a "loading mandrel," which is inserted into the fuse hole of a shell and thereby fixed in a central position, around which the balls are packed, and through which they are introduced. In connexion with the mandrel is used a thin case or sheath of tin, or other suitable material, which surrounds that part of the mandrel within the shell, and which is left within the shell when the mandrel is withdrawn, the same forming a chamber for the powder and retaining the balls in position after the mandrel is removed.

Claim.—First, the loading mandrel, constructed substantially as described, as an instrument for loading ordnance shells or any other analogous use.

Second, the employment, in combination with the loading mandrel, of a case or sheath, substantially as described.

No. 34,042.—N. W. SPAULDING, of San Francisco, Cal.—*Improvement in Saw Gummers.*—Patent dated December 24, 1861.—This invention is more particularly intended to be used in acting upon saws or saw plates for the purpose of inserting detachable teeth, and has special application to such saws and saw plates as are to be provided with teeth or other pieces set therein on circular instead of angular lines, such as are made the subject of letters patent granted to the said Spaulding on September 10, 1861. The punch of this gummer is attached to the die or bed by a bolt, which forms the fulcrum of the punch, so that the motion of the punch in cutting is in the line of a circle, cutting like shears. The punch passes down into the slot of the die, each edge of the punch and the die forming cutting edges, so that the action of the two is that of double shears. The punch is so formed that it may be reversed and either end be used.

Claim.—First, pivoting or hinging the double-edged punch to the double-edged die, as recited, whereby the double shear cut may be made by the gummer.

Second, in combination with the double-edged die, the double-end punch, as described, whereby the one end may be substituted for the other, as and for the purpose described.

No. 34,043.—T. W. ADAMS, assignor to Himself and C. H. SLICER, of Baltimore, Md.—*Improvement in Men's Hats.*—Patent dated December 24, 1861.—This invention is explained by the claim and engraving.

Claim.—In the construction of men's hats, when the brims are of flexible or yielding material, giving the front and side curve to the brim by means of a frame of cane, metal, or other material, confined within or attached to the brim, at or near its circumference, substantially as and for the purpose set forth.

Also, in combination with a hat brim, constructed as claimed in the preceding clause, the head band O, for the purpose of preserving the symmetry of the body of the hat, substantially as described.

No. 34,044.—R. N. EAGLE, of the United States Army.—*Improvement in Saddles.*—Patent dated December 24, 1861.—This invention consists in the use of a horizontal adjusting bar attached to each side of the saddletree, and provided with a number of projecting studs on its upper edge, so that the loops to which the stirrup leather is attached may be adjusted forward or back, to suit the wants or convenience of the rider.

Claim.—Attaching the stirrups to a saddle by variable points of suspension, in the manner explained, or in any other manner substantially equivalent.

REISSUES.

No. 1,106.—F. E. SICKELS, of New York, N. Y.—*Improvement in Steam Engines.*—Patented September 19, 1845; extended for seven years; reissued February 21, 1860; again reissued January 1, 1861.

Claim.—Counterbalancing the weight of the lifting rods so as to relieve the engineer in working the engine by hand, and so that when the engine is hooked on they will exert their full force in descending, to overcome any opposing friction.

No. 1,107.—F. E. SICKELS, of New York, N. Y.—*Improvement in Steam Engines.*—Patented September 19, 1845; extended for seven years; reissued February 21, 1860; again reissued January 1, 1861.

Claim.—The paddle-wheel constructed with buckets of varying areas, substantially as described.

No. 1,108.—HENRY KENEY, of Hartford, Conn., GRANT, WARREN & Co., of Boston, Mass., and JOSEPH JORDAN, of East Hartford, Conn., assignees of GEORGE SWEETLAND, of New Haven, Conn.—*Improvement in Pulp Machines.*—Patented September 5, 1848; reissued January 1, 1861.

Claim.—The combination, in a pulping engine, of two series of disintegrating knives with two knife stocks, (between which the paper material is passed, and one of which revolves,) in such manner that the edges of the knives diverge from the axis of rotation, substantially as described.

Also, the combination of the following elements in a pulping engine, viz:

First, two knife stocks, between which the paper material is caused to pass, and one of which revolves on a central axis.

Second, two series of disintegrating knives secured to the stocks.

Third, a feeding or entry passage to, and an exit passage from, the knife stock, so arranged relatively to the disintegrating knives that the paper material, in passing from one passage to the other, traverses lengthwise with the knives, substantially as described.

Also, the combination of a series of diverging disintegrating knives upon the knife stock of a pulping engine, with filling between the knives, which may be cut away as may be found necessary to control the more or less rapid passage of the paper material lengthwise with the disintegrating surfaces, substantially as described.

Also, arranging a series of disintegrating knives upon the knife stock of a pulping engine in such a manner that there are fewer knives near the entry passage than at the part of the knife stock further therefrom, substantially as described.

Also, the combination, in a pulping engine, of the following elements, viz: a pair of knife stocks having diverging disintegrating knives thereon, suitable entry and exit passages for the paper material, and a casing so constructed that returns the partially ground pulp between the knife stocks, for the purpose of grinding the pulp further, substantially as described.

Also, the combination, in a pulping engine, of the following elements, viz: a revolving knife stock, a series of disintegrating knives upon one side thereof, and arms upon the opposite side thereof, substantially as described.

No. 1,109.—A. PALMER, of Brockport, N. Y., and S. G. WILLIAMS, of Janesville, Wis., assignors, through mesne assignments, to D. S. MORGAN, W. H. SEYMOUR, S. G. WILLIAMS, and AARON PALMER.—*Improvement in Harvesters.*—Patented July 1, 1851; reissued April 10, 1855; again reissued January 1, 1861.

Claim.—Discharging the cut grain from a quadrant-shaped platform, on which it falls as it is cut, by means of an automatic sweep rake sweeping over the same, substantially as described.

No. 1,110.—A. PALMER, of Brockport, N. Y., and S. G. WILLIAMS, of Janesville, Wis., assignors, through mesne assignments, to D. S. MORGAN, W. H. SEYMOUR, S. G. WILLIAMS, and AARON PALMER.—*Improvement in Harvesters.*—Patented July 1, 1851; reissued April 10, 1855; again reissued January 1, 1861.

Claim.—Sweeping the cut grain from the platform upon which it falls as it is cut by means of an automatic sweep rake moved by gearing located within the inner edge of said platform, substantially as described.

No. 1,111.—J. E. BROWN and S. S. BARTLETT, of Woonsocket, R. I.—*Improvement in Grain and Grass Harvesters.*—Patented January 22, 1855; reissued January 1, 1861.

Claim.—Hanging or hinging the bar G to the carriage so as to vibrate, substantially as described, in combination with the hanging or hinging of the cutter stock to the bar G, substantially as described, so that the cutter stock may vibrate and accommodate itself to any undulations in the surface of the ground, and so that it may be raised by the attendant to pass stones, stumps, or other obstructions, without tipping the carriage.

Also, the use of a single draw bar, attached by yielding and hinged connexion at the side of the carriage or main frame, in combination with the hinged or rigidly connected cutter stock or finger bar, substantially as described, for the purpose specified.

No. 1,112.—F. E. SICKELS, of New York, N. Y.—*Improvement in the Method of Opening and Closing the Valves of Steam Engines.*—Patented October 19, 1844; extended for seven years; reissued January 1, 1861.

Claim.—First, my improvement in the periods of the movements of the valves, by which they are opened and closed relatively to each other and to the movement of the piston, by means of which the piston completes each stroke in equilibrio, or nearly so, without admitting steam against the movement of the piston by a lead to the steam valves, which is effected, as before stated, by opening the lower exhaust valve before the end of the upward stroke of the piston and before the upper exhaust valve is closed, and opening the upper exhaust valve before the end of the downward stroke of the piston and before the lower exhaust valve is closed; the movement of the steam valves being so regulated as to admit steam to the cylinder only after the exhaust valve on the corresponding end of the cylinder has been closed.

Also, as my next improvement, and as a means of carrying into effect my first and essen-

tial improvement, the arrangement of the toes and the rock-shaft in such a manner, relatively to the location and form of the feet on the lifting rods, that at the middle, or nearly so, of the rocking motion of the rock-shaft, both lifting rods, with their exhaust valves, shall be partly up, as herein described; and also, in combination with this arrangement, the slip of the lifters on the steam-valve stems, as described, to insure the closing of the exhaust valves before the opening of the steam valves on the corresponding ends of the cylinder, as herein described.

No. 1,113.—F. E. SICKELS, of New York, N. Y.—*Improvement in the Method of Opening and Closing the Valves of Steam Engines.*—Patented October 19, 1844; extended for seven years; reissued January 1, 1861.

Claim.—Giving to each exhaust valve, alternately, while the piston is at or near the end of the cylinder furthest from it, a large amount of motion as compared with the motion of the other exhaust valve at that time, so as to move freely, exhaust the cylinder with less extent and greater ease of motion to the valves than has been done heretofore, substantially as described.

Also, imparting these motions to the exhaust valves by means of a rocker interposed between the first motion from the engine and the valves, so that it will increase and diminish its leverage relative to each valve while moving them, and thereby impart my improved motion.

No. 1,114.—JESSE S. LAKE and DAVID LAKE, of Smith's Landing, N. J., assignors, through mesne assignments, to J. A. SAXTON, of Canton, Ohio.—*Improvement in Grass Harvesters.*—Patented July 20, 1852; reissued January 1, 1861.

Having described one practical way in which that branch of our invention, which forms the subject of this patent, can be carried out, we wish it to be understood that we do not limit ourselves to any particular cutting apparatus, main frame, or mode of operating the cutting apparatus—

But what we claim under this patent as our invention is attaching or fastening that part of a mowing machine to which the guards or fingers, which support and hold the grass while it is being severed by the cutter or cutters, are attached to the main frame, or to an intermediate coupling piece, so that the guards or fingers, or that part to which they are attached, and by which they are sustained and supported, will be free to rise or fall bodily, and also to have a lateral rolling or wabbling motion to enable the cutting apparatus to conform freely to the undulation of the ground over which it is drawn independent of the up-and-down motions of the main frame.

No. 1,115.—JESSE S. LAKE and DAVID LAKE, of Smith's Landing, N. J., assignors, through mesne assignments, to JAMES A. SAXTON, of Canton, Ohio.—*Improvement in Grass Harvesters.*—Patented July 20, 1852; reissued January 1, 1861.

Claim.—First, the combination of a hinged lever seat, for the driver, with the main frame and cutting apparatus of a mowing machine.

Second, the combination of a main frame and an inclined projecting hinged lever seat with a main drive-wheel, having no outside support.

No. 1,116.—JESSE S. LAKE and DAVID LAKE, of Smith's Landing, N. J., assignors, through mesne assignments, to JAMES A. SAXTON, of Canton, Ohio.—*Improvement in Grass Harvesters.*—Patented July 20, 1852; reissued January 1, 1861.

Claim.—First, placing the driving-wheel in a mowing machine on the outside of the frame in combination with a triangular-shaped frame on the inside of the wheel.

Second, in a mowing machine, the combination of the following elements, viz: a triangular main frame, a single driving-wheel arranged on the outside of said frame, and a hinged lever seat for the driver, for the purposes set forth.

Third, in combination with the main frame of a mowing machine, a single drive-wheel and a leading swivel-wheel, so arranged in relation to each other, and the cutting apparatus, as that the said wheels shall run on lines just outside of the grass to be cut.

No. 1,117.—JESSE S. LAKE and DAVID LAKE, of Smith's Landing, N. J., assignors, through mesne assignments, to JAMES A. SAXTON, of Canton, Ohio.—*Improvement in Grass Harvesters.*—Patented July 20, 1852; reissued January 1, 1861.

Claim.—First, the combination of the coupling piece I, and finger support G, with an intermediate metallic connexion or lever H, for the purpose stated.

Second, the metallic connexion or lever H, both as a hinge and support to the cutting apparatus and finger support.

Third, the combination of the finger support and the metallic connexion or lever H, in such a manner that their lower surfaces shall be flush, for the purposes set forth.

Fourth, in combination with the main frame of a grass harvester, a finger, or guard support, whatever it may be called, having two independently acting hinges or yielding connexions interposed between it and the main frame, in such a manner as that said finger or guard support, as it is advanced by means of its hinges or yielding connexions, shall be free to rise above or fall below the plane on which the carrying or driving wheel or wheels are passing.

Fifth, so hinging that part of a mowing machine to which the guards or fingers are attached, as that it may oscillate or turn on a line at right angles to the line of motion of the machine, for the purpose of raising the points of the guards to adapt the cutting apparatus to the condition of the ground, while it is also free to roll, rock, or wabble on a line parallel to the line of motion of the machine.

Sixth, the combination with the main frame, finger support, and cutting apparatus of a mowing machine, of a lever with an adjustable weight thereon, whereby the pressure of the finger support and cutting apparatus upon the ground can be regulated by simply moving said weight upon its lever.

Seventh, the combination of a counterpoise weight, or the equivalent thereof, with that part of a mowing machine, whatever it may be called, to which the guard fingers are attached, to diminish its pressure upon the ground, and thus obviate side draught and friction.

No. 1,118.—M. R. FLANDERS, of Greenwich, N. Y.—*Improvement in Grain Cradles.*—Patented June 29, 1859; reissued January 8, 1861.

Claim.—Attaching the finger standard B to the snath A, by means of the rod C, and eye *b*, secured respectively to the standard and snath, in connexion with the compensating or adjustable braces H J, the whole being constructed and arranged substantially as and for the purpose set forth.

Also, the compensating or adjustable braces or stays that connect the fingers F, and which are formed of the rods *e e*, and socket G, when said rods are connected to the fingers F by the collars *a*, substantially as set forth.

No. 1,119.—ELLIOT DICKERMAN, of Richmond, Vt.—*Improved Clothes Wringer.*—Patented April 10, 1860; reissued January 8, 1861.

Claim.—In machines for drying clothes by compression between rollers, employing, as one or both of the rollers for acting upon the clothes, a rubber-coated or equivalent elastic and non-absorbent roller A, so mounted in a suitable framing B B that the compression of the elastic material on that side which is acting upon the clothes is attached by a corresponding compression of the elastic material against a roller D or E, on its opposite side, as and for the purpose set forth.

No. 1,120.—J. A. VAUGHN, of Cuyahoga Falls, Ohio.—*Improvement in Grain Separators.*—Patented April 24, 1860; reissued January 8, 1861.

Claim.—First, in combination with a series of zigzag screens and directing boards, having a shake motion, the stationary chambers for receiving the material therefrom, substantially as described.

Second, the combination of the series of zigzag screens and directing boards, having a shake motion, the stationary receiving chambers and short fan, when arranged to operate substantially as described.

Third, the combination of the directing board P, cockle riddle Q, and cockle board R, substantially as and for the purpose described.

No. 1,121.—JASPER JOHNSON, of Geneseo, N. Y.—*Improved Gate.*—Patented March 6, 1860; reissued January 8, 1861.

Claim.—Operating a gate upon its hinges by the alternate partial rotation of a bent rod or bar, one branch of which moves between guides on the face of the gate, the other branch being inserted into the supporting post, said partial rotation being effected by the devices described, or their equivalents.

No. 1,122.—J. W. MOFFITT, of Harrisburg, Pa.—*Improvement in the Manufacture of Porcelain Teeth.*—Patented November 20, 1860; reissued January 8, 1861.

Claim.—The manufacture of porcelain teeth and gums of the material specified, in the proportions described and set forth; the same being prepared, applied, and consolidated together upon the plate, substantially in the manner described and for the purpose specified.

No. 1,123.—E. H. GRAHAM, of Manchester, N. H., (formerly of Biddeford, Me.)—*Improvement in Magazine Guns.*—Patented October 4, 1853; reissued January 8, 1861.

Claim.—First, the combination of a rotating magazine, separate rotating charge receiver or conveyer, and gun barrel, for operation together, substantially as specified.

Second, operating the rotating magazine and rotating charge receiver automatically by the action of the trigger guard, or its equivalent.

Third, the arrangement of the series of ball chambers *b b b*, &c., and the series of powder chambers *a a a*, &c., in concentric circles, and on the side of the gun barrel and out of the sight range, and so as not only to revolve and work against a common plate E, affixed to the side of the gun, but to operate in conjunction with a rotary charge receiver *k*, placed within the barrel, as specified, such arrangement of the magazine of chambers not only causing the powder of the charges to be kept in separate chambers, so as to lessen the danger of accident, but causing the magazine to be so arranged as to be out of range of the sight in taking aim.

Fourth, so to combine the percussion hammer or cock, rotary charge receiver, and the rotary magazine, with the trigger guard, that, by the movement of the said guard away from the stock, they may be simultaneously put in motion and the hammer brought up to full cock, as specified.

No. 1,124.—GEORGE LINDSAY and WILLIAM CAMERON, of Petersburg, Va., assignors to WILLIAM CAMERON, of the same place.—*Improvement in Tobacco Presses.*—Patented September 13, 1859; reissued January 15, 1861.

Claim.—The combination of a portable hydraulic press or jack, with a stationary retaining press, or series or tier of retaining presses, when operating together, for the purposes and substantially in the manner represented.

No. 1,125.—ROBERT H. LONG, of Philadelphia, Pa.—*Improvement in the Mode of Propelling Railway Cars by Steam.*—Patented January 24, 1860; reissued January 15, 1861.

Claim.—First, placing a steam engine and boiler, constructed and arranged as described, on the platform of a railway car, in the manner substantially as specified.

Second, placing the pinion F upon the frame of the engine, thus permitting the engine to be brought close to its work, and the whole to be used in combination with a railway car, for the purposes set forth.

No. 1,126.—AARON H. ALLEN, of Boston, Mass.—*Improvement in Opera Seats.*—Patented December 5, 1854; reissued January 15, 1861.

Claim.—A swinging or lever seat, set and moving upon a cross shaft or hinges, and sustained, when in use, by a stop or stops, so disposed as that the rear portion of the seat comes in contact with said stop or stops when the seat is turned down, substantially as set forth; and, whether combined or not with weights or springs, whereby the said seat may assume and retain a vertical or raised position automatically, as specified.

No. 1,127.—WILLIAM CAMERON, of Petersburg, Va.—*Improvement in Machinery for Pressing Tobacco.*—Patented November 9, 1858; reissued January 15, 1861.

Claim.—The making of a hydraulic press available in the pressing and retaining under pressure, of tobacco, by combining and using in connexion with it a retaining press or stand that will receive and hold the pressure imparted to it by the said hydraulic press, substantially as described.

No. 1,128.—WILLIAM CAMERON, of Petersburg, Va.—*Improvement in Machinery for Pressing Tobacco.*—Patented November 9, 1858; reissued January 15, 1861.

Claim.—Combining with a retaining press or stand that is to be used in connexion with and receive its pressure from a hydraulic press, a series of boxes, into which the tobacco is pressed by the greater press but retained by a minor press, substantially as described.

No. 1,129.—JOHN GORE, of Brattleboro, Vt.—*Improvement in Grain and Grass Harvesters.*—Patented December 27, 1859; reissued January 15, 1861.

Claim.—First, the use of the lever M′, constructed as described, in combination with the tapering draw bar D, for elevating the cutting apparatus of harvesters in the manner described.

Second, the adjustable box J, constructed as described, in combination with the connecting rod *a* and cutting apparatus, and operating as set forth.

No. 1,130.—SAMUEL BARLEY and J. H. BARLEY, of Longwood, Mo.—*Improvement in Harvesters.*—Patented June 19, 1860; reissued January 22, 1861.

Claim.—First, the arrangement of the oblique bars a'' $a^{*\prime\prime}$ of the frame, the latter bar $a^{*\prime\prime}$ extending over or within a vertical line with the shoe or lower part $b^{*\prime}$ of the frame D, in connexion with the long axle B, with the driving and grain wheels A A′ on either end, as and for the purpose set forth.

Second, the arrangement of the rake bar and head e' e'' to operate in combination with the guard plate S, crank d', shafts e' Q, and platform I, as shown and described.

Third, we do not claim broadly the invention of the divider, but we do claim the arrangement of the horn-shaped divider T to revolve so that it can be adjusted to any desired position, in the manner shown and described.

No. 1,131.—WILLIS HUMISTON, of Troy, N. Y.—*Improvement in Candle Mould Machines.*—Patented July 24, 1855; reissued January 22, 1861.

Claim.—First, the combination of the candle-tip mould *a* with the drive-rod D, as and for the purposes described and set forth.

Second, the combination of the said candle-tip mould *a*, connected and combined with the drive-rod D, with the candle mould or tube B, as and for the purposes set forth and described.

Third, the clamping of the candles in the position in which they are driven or forced from the moulds or tubes B, and thus thereby holding them during the operation of casting or moulding candles in the said moulds or tubes B directly below, while the said candles in the said clamps are ready to be removed therefrom, substantially as described and set forth.

Fourth, the adjusting and holding the wick (for the candle) in the centre of the said moulds or tubes B by the use of the said clamps F and the candle therein firmly secured by means thereof, in connexion with the said candle tip mould *a* attached to the said drive-rod D, substantially as described and set forth.

No. 1,132.—WILLIS HUMISTON, of Troy, N. Y.—*Improvement in Candle Making Apparatus.*—Patented December 23, 1854; reissued January 22, 1861.

Claim.—First, the wicking the candle moulds A by means of the gripers or pincers D, in connexion with the reel or spool containing the wick below, as described and set forth.

Second, the suspending of the candles in and upon a centre line with the moulds A directly below, by means of gripers or pincers D, in connexion with the tip of the said mould, as and for the purpose described and set forth.

Third, the griping of the candle wick by means of the said gripers or pincers D, or their equivalents, and by the same drawing the candles from their respective moulds and suspending the same above the moulds until the next series of candles are moulded, and those suspended are cut from the wick and removed, in the manner and for the purpose described and set forth.

No. 1,133.—DAVID S. WAGENER, of Penn Yan, N. Y.—*Improvement in Threshing Machines.*—Patented May 1, 1860; reissued January 29, 1861.

Claim.—In combination with a threshing mechanism enclosed in an outer case, and an exhaust or suction fan enclosed in a fan case, the communicating trunks or passages which connect them for the purpose of causing all the incoming currents of air to become vehicles for carrying and concentrating the dust in the fan case, from whence it is driven to any proper depository, substantially as described.

No. 1,134.—SEWALL BRACKETT, of Fall River, Mass.—*Improved Knife and Fork Cleaner.*—Patented April 10, 1860; reissued February 5, 1861.

Claim.—My improved scouring machine as composed of the two rollers B B, the trough A, the auxiliary or scouring and counteracting rollers B′ B′, and the four connecting gears D D D D, or mechanical equivalents for such gears, arranged and combined substantially in the manner and so as to operate together as specified.

No. 1,135.—CHRISTIAN REIF, of Hartleton, Pa.—*Improvement in Clover Separators.*—Patented August 8, 1854; reissued February 5, 1861.

Claim.—The employment of a cast metal bed or concave in which the angular projections on its face, as described, furnish one of the rubbing surfaces, when used with a revolving cylinder A armed with spikes, constructed in the manner and for the purposes set forth.

Also, the described arrangement of sieves H and *q* and carriers I and J, for cleaning clover seed, substantially as fully set forth.

No. 1,136.—DAVID S. WAGENER, of Penn Yan, N. Y.—*Improvement in Flouring Mills.*—Patented September 25, 1855; reissued March 13, 1860; again reissued February 5, 1861.

Claim.—In combination with a grinding mill the feeding of the grain trough or post; a suction draught interposed between the hopper and the grinding surfaces of the stones for the purpose of removing from the grain the dust and other impurities in it, substantially as described.

No. 1,137.—S. R. PARKHURST, of West Bloomfield, N. J.—*Improvement in Machines for Ginning Cotton and Burring Wool.*—Patented May 1, 1845, and extended seven years; reissued February 12, 1861.

Claim.—First, a hollow cylinder having an outer acting surface composed of flat, strong, long-topped metallic teeth combined with plain surfaces below the tops of the teeth, substantially as described, and capable of being used to produce the results specified.

Second, in combination with a hollow cylinder provided with an acting or working surface, substantially as is described, the feeding rollers constructed and relatively arranged therewith, substantially as set forth, the combination operating substantially as described; and, also, in combination with a rotating beater constructed relatively, arranged therewith, and operating substantially as herein set forth.

Third, a rotating beater, substantially such as is described, in combination with a hollow cylinder having an acting surface of teeth and cylindrical surface, substantially such as is specified, and in combination with these a burr box or trash box and a rotating brush, or its equivalent, or either of them, all the parts enumerated being substantially such as are hereinbefore set forth.

Fourth, a hollow cylinder having, substantially, such an acting surface as is hereinbefore described, in combination with a rotating beater as specified, and with a carding engine or machine, the combination acting substantially as set forth; and, in combination with these three elements or parts of a whole machine, a feeding and a trash box, substantially such as specified, by which combinations the cleansings preparatory to carding of wool are carried on jointly as a continuous process.

No. 1,138.—M. A. HOWELL, jr., assignee of J. H. ELWOOD, of Ottawa, Ill.—*Improvement in Mole Plough.*—Patented November 13, 1860; reissued February 19, 1861.

Claim.—First, in combination with a plough or machine for purposes of underground draining, a stationary coulter, and a coulter the front edge of which may be moved laterally, and for the purpose and substantially as described.

Second, the sections *e d* and *c*, in combination with the coulters *a* and *b*, when arranged as and for the purposes set forth, substantially as described.

Third, the movable coulter *a*, in combination with the side draught, as applied at the link or loop at *f*, on the side of the beam A, through either of the slots in the transverse piece upon the forward end of the beam A, for the purposes substantially as set forth and described.

No. 1,139.—S. H. RANSOM & CO., of Albany, N. Y., assignees of WASHBURN RACE, of Seneca Falls, N. Y.—*Improvement in Registers for Stores.*—Patented April 4, 1846; reissued February 19, 1861.

Claim.—Connecting the expansion rod with the register in the manner substantially as described and for the purpose specified.

No. 1,140.—C. B. HOARD, of Watertown, N. Y.—*Improved Method of Winding Timekeepers by Currents of Air.*—Patented April 3, 1860; reissued February 19, 1861.

Claim.—Winding a clock or other timekeeper by means of a current of air produced by a pipe, flue, or other artificial channel, employed for ventilation, or otherwise actuating an air motor.

No. 1,141.—P. H. JACKSON, of New York, N. Y.—*Improvement in Ships' Winches.*—Patented August 7, 1855; reissued February 19, 1861.

Claim.—The pawl 4, and counterweight 6, constructed as specified, so that the pawl can be reversed by turning it under the centre 5, and the counterweight will cause the said pawl to act upward on either side of the centre, as set forth.

The rachet wheel 3, of a windlass or winch, and the reversible pawl 4, below said wheel, in combination with a double-acting heaver, as specified, by which arrangement a windlass or winch can be rotated in either direction by the use of one rachet wheel, as described and shown.

Also, the pawl *a*, formed with two arms or points, as set forth, in combination with the socket or plate receiving the handspike or heaver, said pawl being reversible in the manner specified, so that the arm not in action becomes a counterweight to the arm or point taking the rachet teeth, as set forth.

No. 1,142.—Suspended.

No. 1,143.—WILLIAM WHARTON, jr., of Philadelphia, Pa.—*Improvement in Transferring Cars from one Track to Another.*—Patented September 18, 1860; reissued February 19, 1861.

Claim.—The employment, in connexion with sidings or turnouts on railways, of a supplementary inclined or curved guide rail, in combination with car wheels so constructed as regards the said supplementary rail which is so arranged in respect to the rails of the main track and those of the siding that the wheels may be transferred from the control of the rails on one track to that of the rails of the other, by a lateral thrust caused by the wheels bearing against the side only of the said guide rail, as set forth.

No. 1,144.—R. B. BURCHELL, of Brooklyn, N. Y.—*Improved Window Curtain Fixture.*—Patented August 7, 1860; reissued February 26, 1861.

Claim.—The arrangement of the rod A, pulley *d*, and stationary eye B, in substantially the manner specified, for forming a tightener for the cords of curtains, wherein said cord can be tightened or slackened by sliding the said rod through the eye, as specified.

Also, in a tightener for the cords of curtains, forming the rod A, with ratchet teeth and a smooth surface or surfaces, in combination with a pawl or pawls, substantially as specified, whereby the said rod A can be moved in either direction when turned, so that the pawl or pawls are in contact with the smooth surface or surfaces, as and for the purposes specified.

No. 1,145.—F. A. ROSS and W. H. MARSHALL, of New York, N. Y.—*Improvement in Sewing Machine Cases.*—Patented August 28, 1855; reissued February 26, 1861.

Claim.—First, the combination of a cabinet provided with a proper door or doors with a sewing machine in such manner that the foot pedal of the machine shall be enclosed by the cabinet, and the needle stock arm or bar shall be above its upper surface, the combination being substantially such as described.

Second, in combination with a cabinet and a sewing machine, the former provided with doors and enclosing the foot pedal of the latter, a box or cover substantially such as described, and serving the purposes specified, the combination being substantially such as is set forth.

Third, combining with a cabinet protecting a sewing machine, side leaves and doors so constructed as that the doors shall support the leaves when raised up, the whole combination being substantially such as specified.

No. 1,146.—W. T. VOSE, of Newtonville, Mass.—*Improvement in Portable Pumps.*—Patented November 15, 1859; reissued February 26, 1861.

Claim.—The combination of a footstand, stirrup or rest, as set forth, with a pump barrel, in a manner substantially as described.

No. 1,147.—J. M. WOOD, of Seneca, N. Y.—*Improved Willow Peeler.*—Patented August 7, 1860; reissued February 26, 1861.

Claim.—First, the circular friction disc D, with its suitable covering, as and for the purpose described.

Second, the screw cylinder S, with its conical-shaped end and variable thread, and with or without a circular groove, as and for the purpose set forth.

Third, the combination of the disc D, and screw cylinder S, with adjusting springs, substantially in the manner and for the purpose specified.

No. 1,148.—IRA KINMAN, of Freeport, Ill.—*Improvement in Measuring Faucets.*—Patented May 3, 1859; reissued March 5, 1861.

Claim.—The construction of the faucet with the rotating slide F, and an eccentric barrel C, operating substantially as shown and described, in combination with the described device to register accurately and automatically the number of rotations of the slide, and to arrest it when the desired quantity of fluid is discharged, as set forth.

Also, the employment of an endless screw, in combination with the rotary slide F, and eccentric chamber E, arranged and operating in the manner and for the purposes substantially as set forth.

No. 1,149.—FREDERICK NISHWITZ, of Brooklyn, N. Y.—*Improvement in Harvesters.*—Patented February 16, 1858; reissued March 5, 1861.

Claim.—First, the arrangement of an adjustable lever directly connected with the tongue or pole, for elevating the cutting apparatus, and to hold it at any desired height, as and for the purpose set forth.

Second, said lever, in combination with the pole, chain or cord, the frame or finger bar, said pole being attached at its rear end near the centre of the machine, as and for the purpose set forth.

Third, in combination with the said lever and pole, the pawl and treadle operating jointly in the manner and for the purpose specified.

Fourth, also, the combination of the lever, pawl and treadle with the adjustable stop K, substantially as described, for the purposes specified.

No. 1,150.—D. W. SHARES, of Hamden, Conn.—*Improvement in Harrows.*—Patented January 27, 1857; reissued March 12, 1861.

Claim.—A series of coulter teeth H, formed substantially as specified, and arranged diagonally to the line of motion, so as to form a harrow that loosens, mollifies, and harrows the soil, as described.

Second, the tooth G, at the front end of the centre bar, formed with two divergent wings, in combination with a series of harrow teeth H, on the diagonal bars B B′, as set forth.

No. 1,151.—HENRY HEWITT, of San Francisco, Cal., assignor to W. A. SANFORD, Potsdam, N. Y.—*Improvement in Seeding Harrows.*—Patented March 27, 1860; reissued March 19, 1861.

Claim.—The arrangement of the sowing apparatus and the cylindrical harrow described—all the various parts being constructed for operation conjointly, in the manner and for the purposes described.

No. 1,152.—BERNARD HUFNAGEL, of New York, N. Y.—*Improvement in Photographic Baths.*—Patented October 5, 1858; reissued November 13, 1860; reissued March 19, 1861.

Claim.—First, the arrangement and use of a frame or box of wood, or any other suitable material, to hold together and support two plates of glass with packing between, for the purpose of forming a silver bath for photographic and ambrotype use.

Second, the application and use of India-rubber packing between the two plates of glass, for the purpose of making a tight joint between the plates at the sides and bottom, as well as to protect the frame-work from the action of the solution.

Third, the construction of the outer box or case, and the manner of fastening the same together by the screws S, for the purpose and in the manner set forth.

Fourth, I claim the arrangement and use of doors or panels D D′ on opposite sides of the outer box or casing, for the purpose substantially as described.

No. 1,153.—C. C. LLOYD, of Philadelphia, Pa.—*Improvement in Gas Meters.*—Patented June 20, 1854; reissued March 19, 1861.

Claim.—The application and mode of operation described, when the double purpose is effected of equalizing and regulating the pressure of gas within the meter and of shutting off the gas when the water gets too low, by combining the valve with one and the same float, all within the meter, substantially as and for the purposes set forth.

Also, the float K, in combination with any suitable inlet valve, when the said float operates in a chamber L, so placed in the front of the meter as to be isolated from the inlet pressure, and the said chamber being so situated or so constructed that its interior may communicate with the inlet pressure at a point between the water line and the top of the centre opening of the drum, when the water gets too low, as set forth.

No. 1,154.—ELIAS HOWE, jr., of Brooklyn, N. Y.—*Improvement in Sewing Machines.*—Patented September 10, 1846, and extended seven years; reissued March 19, 1861.

Claim.—First, a sewing machine constructed and operating to form a seam substantially as described.

Second, the combination of a needle and a shuttle, or equivalent, and holding surfaces, constructed and operating substantially as described.

Third, the combination of holding surfaces with a baster plate, or equivalent, constructed and operating substantially as described.

Fourth, a lifting rod, a clipping lever, and a receiving pin, respectively, each constructed and operated to control the threads, substantially as described.

Fifth, a baster plate constructed and operating substantially as described.

Sixth, holding surfaces constructed and operating substantially as described.

Seventh, a grooved and eye-pointed needle constructed and adapted for rapid machine sewing, substantially as described.

Eighth, a side-pointed shuttle constructed and operating substantially as described.

No. 1,155.—CAESAR NEUMANN, of New York, N. Y.—*Improved Machine for Making Hooped Skirts.*—Patented August 16, 1859; reissued March 19, 1861.

Claim.—The combination of a series of twisting apparatus for the purpose of forming a hoop skirt, substantially as and for the purposes set forth.

Also, in combination with the twisting apparatus, the elevating screw and its appendages, and the mode of operating the same, as described.

Also, the guide rod *i*, for guiding the twisting apparatus and determining the size and shape of the skirt, as set forth.

Also, collapsing the guides to form different sized skirts and to deliver the same, as specified.

Also, moving the guides up and down, to determine the position of the twisting apparatus.

Also, simultaneously twisting a series of cords for the purpose of forming a hoop skirt, substantially as described.

No. 1,156.—THE MERRILL PATENT FIRE-ARM MANUFACTURING COMPANY, assignees of J. H. MERRILL, of Baltimore, Md.—*Improvement in Fire-Arms.*—Patented July 20, 1858; reissued March 26, 1861.

Claim.—The combination of a barrel that opens out at its top, and an open chamber behind it for receiving a cartridge, with a breech pin or plug and two levers for actuating and holding it locked, substantially as described.

No. 1,157.—THE MERRILL PATENT FIRE-ARM MANUFACTURING COMPANY, assignees of J. H. MERRILL, of Baltimore, Md.—*Improvement in Fire-Arms.*—Patented July 20, 1858; reissued March 26, 1861.

Claim.—In combination with a barrel that opens out at its top, a long, open, drooping chamber in rear of it, for the purpose of easily dropping in the cartridge and the ready cleansing of the bore of the gun from the rear, substantially as represented.

No. 1,158.—THE MERRILL PATENT FIRE-ARM MANUFACTURING COMPANY, assignees of J. H. MERRILL, of Baltimore, Md.—*Improvement in Fire-Arms.*—Patented July 20, 1858; reissued March 26, 1861.

Claim.—In combination with the levers by which the breech pin or plug is actuated, a guiding mechanism, substantially as described, by which said levers and plug are controlled in their movements, to prevent binding, chafing, or bruising, as set forth.

No. 1,159.—THE MERRILL PATENT FIRE-ARM MANUFACTURING COMPANY, assignees of J. H. MERRILL, of Baltimore, Md.—*Improvement in Fire-Arms.*—Patented July 20, 1858; reissued March 26, 1861.

Claim.—Converting what is known as the "Jenks gun" from a loose powder and ball loader to a cartridge loader, by closing up the opening through which that gun was loaded, cutting away and opening out in rear of the barrel so as to load at the rear end of the bore, and allowing the lever, toggle, and piston to come far enough back to admit a cartridge to be dropped in behind the bore, and thence run up into the chamber, as set forth.

No. 1,160.—E. E. EVERITT, of Philadelphia, Pa.—*Improved Bedstead Fastening.*—Patented March 29, 1859; reissued March 26, 1861.

Claim.—The combination of the tapering, wedge-formed head or tenon *l*, with the tapering mortise *i*, one being attached to the post and the other to the rail of a bedstead, when the

said tenon is less than the mortise, and when both are constructed and arranged in respect to each other, substantially as set forth, for the double purpose of readily tightening the rail to the post, when the joint has become loose through shrinkage, and of forming a coupling capable of self-adjustment laterally, as specified.

Also, one or more fins or ribs *e*, in combination with the plugs A and A′, when these are constructed substantially as described.

No. 1,161.—W. O. HICKOK, of Harrisburg, Pa.—*Improvement in Mills for Grinding Apples.*—Patented November 20, 1855; reissued March 26, 1861.

Claim.—The application of breakers *d d*, along between the parallel rows of the teeth *b b*, in each of the cylinders A A′; and whether the said breakers be formed as the plain or serrated, continuous, longitudinal ridges *d d*, shown in the drawings, or as a series of isolated or distinct small teeth between the said rows of the larger teeth *b b*, as described; and whether the helical ribs *c c* be used or not; the said teeth or breakers operating together, substantially in the manner described and for the purpose specified.

No. 1,162.—W. F. KETCHUM, of Buffalo, N. Y.—*Improvement in Track Clearers for Harvesters.*—Patented May 17, 1853; reissued March 26, 1861.

Claim.—First, a track clearer or scraper placed near the outer end of the finger bar and behind the divider, at an acute angle with the finger bar, arranged in relation to the same so as to sweep the grass inwards as it falls over the finger bar, and with cutters supported and guided near their outer ends wholly by stationary supports or guides, so that the mechanism for the operation of the cutting apparatus will not clog or obstruct the action of said track clearer or scraper, substantially as described.

Second, placing the lower surfaces of the rear of the divider and front end of the track clearer close together and substantially on a level with the under surface of the cutter bar, substantially as described.

Third, and in combination therewith connecting the track clearer at its front end by a vertically-yielding joint placed near its lower surface, substantially as set forth.

Fourth, the combination of the divider with a track clearer connected at the rear thereof, and standing at an acute angle with the cutter bar, while the lower edge of the track clearer is on or near the ground, and its upper edge rises gradually backward from the upper surface of the divider, substantially as set forth.

Fifth, the short divider, in combination with a track clearer attached close to its rear and at an acute angle with the finger bar, as set forth.

Sixth, placing the front end of the inside track clearer close to the rear of the divider, at or near its outer side and beyond its extreme cutting point, so that the grass shall fall over the cutters and finger bar inside of the track clearer in condition to be swept inward, substantially as described.

No. 1,163.—LEONARD CAMPBELL and T. W. BROWN, of Columbus, Miss., assignees of said CAMPBELL and T. W. BROWN.—*Improvement in Cotton Gins.*—Patented May 22, 1855; reissued April 2, 1861.

Claim.—First, ginning the cotton, stretching and straightening its fibre, and combing the same, at one continuous operation, by means of a combination of the gin saws *a*, brush cylinders E F, and stationary brush bar I, substantially in the manner described.

Second, the use of a stationary brush bar in combination with the brush cylinder E, substantially in the manner and for the purpose described.

Third, the employment of a combined mote and cotton discharge board, constructed of two planes placed at certain angles or in certain relative positions to each other, substantially as and for the purposes set forth.

Fourth, the employment of a wind and guard plate G′, in combination with the brush F, that takes the cotton from the gin saws, substantially as and for the purposes set forth.

Fifth, the combination of the gin saw, the brushes, the brush bar, the division wind board, the perforated concave, the wind and guard plate, and the combined mote and cotton separating board, substantially as and for the purposes set forth.

No. 1,164.—FRANCIS DRAPER, of East Cambridge, Mass.—*Improvement in Fountain Inkstands.*—Patented January 7, 1851; reissued April 2, 1861.

Claim.—First, extending the tube of the dipping cup, made adjustable up and down by screw or otherwise, down to the bottom of the reservoir, and so fitting or packing the lower end of said tube and bottom of the reservoir, or either, as to establish a cut-off at pleasure between the dipping cup and reservoir at the bottom of the latter, substantially as specified.

Second, in combination with the piston or cut-off for closing the tube at the end of the stroke, substantially as shown and described, the formation in the bottom of the reservoir of a cup or recess, as set forth.

Third, the combination with the reservoir and adjustable dipping cup or tube of an inner or intermediate cylinder, for operation together, essentially as specified.

No. 1,165.—C. F. J. Colburn, of Newark, N. J.—*Improved Evaporator for Hot-Air Pipes.*—Patented January 22, 1861; reissued April 2, 1861.

Claim.—First, the arrangement of the reflector C, in combination with the evaporating vessel A and hot-air pipe B, as described, for the purpose of facilitating the evaporation and to prevent the dust rising into the apartment.

Second, making the evaporating vessel A, or a portion of the same, of unglazed earthenware, or some other porous material, substantially as and for the purpose specified.

Third, constructing the vessel A of two parts *a* and *b*, the part *a* to be made of porous material, and the part *b* to contain a lamp-wick, or its equivalent, substantially as and for the purpose set forth.

No. 1,166.—Jonathan Smith, of Tiffin, O.—*Improvement in Seed Drills.*—Patented January 4, 1860; reissued April 2, 1861.

Claim.—First, producing a direct downward pressure on the grain by the ratchet washer, when its lateral agitation by the corrugated plates is suspended, to insure a continuous flow of grain, substantially in the manner described.

Second, the thin metal corrugated wheels D and ratchet washers E, conforming therewith in lateral surface, in combination with shaft A, collars F, and concave hopper bottom B, the operation being as set forth.

No. 1,167.—L. F. Munger, of Rochester, N. Y., formerly of Le Roy, N. Y.—*Improvement in Locks.*—Patented July 14, 1857; reissued April 2, 1861.

Claim.—First, a series of wheels W revolving on a common centre and provided with teeth or indentations at their peripheries, for changing their position relatively with other wheels V, or their equivalents, when each of the wheels W aforesaid has a pin projecting from its side or sides, so placed as to interlock with similar pins in the wheel or wheels next adjoining it, to operate substantially as and for the purpose set forth.

Second, the combination of the wheels W with the wheels V, or their equivalents, when the latter are arranged or placed on an adjustable axis or shaft, specifically as shown, for the purpose of connecting and disconnecting the wheels W and the wheels V, or their equivalents, as specified.

No. 1,168.—A. W. Morse, assignee of J. H. Maydole and A. W. Morse, of Eaton, N. Y.—*Improvement in Grass Harvesters.*—Patented February 6, 1855; reissued April 2, 1861.

Claim.—First, combining with the finger bar of said grass harvester an adjustable arm or lever *c*, provided with a roller or other means of passing easily over the ground, for the purpose of sustaining the finger bar at any required distance from the ground, or allowing it to rest upon the ground at pleasure, for the purpose set forth.

Second, the arrangement of the aforesaid arm or lever *c* in near proximity with the driver's seat, for the purpose of operating the finger bar, in the manner substantially as described.

Third, the combination of the brace bar K with the frame of the said improved grass harvester, when the said bar is arranged in such a manner as to form a lateral support to the operating arm or lever *c*, substantially as described.

Fourth, the adjustable wheel *a*, which serves as a fulcrum for raising the cutting apparatus, in combination with the inner shoe, substantially as set forth and for the purposes specified.

No. 1,169.—J. N. Wyckoff, of Brooklyn, N. Y., and T. M. Fell, of Melville Mines, Va.—*Improvement in Gold Amalgamators.*—Patented July 26, 1859; reissued April 9, 1861.

Claim.—The process of separating gold or silver from other substances by mixing the whole with water, confining it together with mercury within suitable containing vessels, and there, by the action of heat, commingling the mercury throughout the entire body of water and substances containing the precious metals, substantially as set forth.

No. 1,170.—E. W. Goodale, of Clinton, Mass.—*Improvement in Machines for Making Envelopes.*—Patented October 9, 1855; reissued April 16, 1861.

Claim.—First, the employment, in a machine for making envelopes or bags, to support the blanks during either or all of the operations of pasting, stamping, and applying the gluten, of a self-adjusting table C, supported by a cam whose position is so controlled by a spring, or its equivalent, applied to its shaft, that, as the blanks are removed one by one, the table is caused to rise to bring the next one to the proper height or position to be pasted, stamped, or have the gluten applied, substantially as set forth.

Second, giving the self-adjusting table a drop movement, substantially as described, by means of the cam H, the lever H', pawl *k*, ratchet wheel I, or their equivalents, acting on the shaft of the supporting cam C2.

Third, applying the gluten, which makes the envelope or bag self-sealing, to that part of the blank which is to form the seal flap or closing flap of the envelope or bag by a die, while in the machine, at the commencement of the process, substantially as described, whereby the said die serves the two purposes of applying the gluten and of lifting the blanks, one at a time, from the pile, or retaining the top one while the remainder of the pile is lowered away from it.

Fourth, applying the two dies *h h'* to two arms or jaws *i l*, which are connected together by a hinge, or its equivalent, arranged at the rear of the table C, and which have a sliding motion back and forth, substantially as described, to move the said dies out of the way of every successive blank till the latter has had the gluten applied and been separated from the pile, and then to bring them forward again to receive the separated blank and to receive the pressure of the screw *g*, or its equivalent.

Fifth, attaching the paste box, the gluten die, and the screw *g*, or other equivalent device, which gives pressure to the stamp which produces the seal, to a head E, receiving such a motion as is described from a pair of cranks, or their equivalents.

Sixth, the employment of a pair of nippers O O', having a motion of a positive length in the line, or parallel with the line in which the blank is required to move from the pasting to the folding apparatus, either to take a cut blank from a table or to draw the material before it is cut from a roll and measure off the proper length to be cut, substantially as set forth.

Seventh, the method of giving the necessary movements to the lappers *t1 t2 t3 t4* by means of the bent lever *u1 u2 u3 u4*, and the springs *t**, applied to their hinges, substantially as described.

Eighth, the creasing fingers *w*, arranged and operating substantially as described, to hold the blank in position and crease it in the line for folding the seal flap, substantially as set forth.

Ninth, the nippers *y y'*, arranged and operating in a lateral direction, substantially as described, to remove the finished envelopes or bags at one side of the folding stand.

Tenth, the lifter 10, applied, substantially as described, to the folding stand, and operated by the lever which carries the nippers *y y'*, for the purpose of lifting the finished envelope or bag at one side thereof from the stand, to enable it to be taken by the nippers.

Eleventh, applying a stamp V to work through the table C, substantially as described, for the purpose of stamping a card or other impression on a bag during the process of manufacture.

Twelfth, the general arrangement and combination of the several working parts of the machine.

Thirteenth, the cutting and folding of the paper in such manner that the lap for closing the bottom of the bag and a projection on one side of the mouth, affording convenience for opening the bag and constituting a flap to cover the mouth, are both produced by the form of the cut by which the paper is cut from the roll, substantially as described, without any waste of paper; but I do not wish to be understood as now claiming the cutting off the paper in such form as to produce only the projection at one side of the mouth, that being claimed in the reissue, dated September 4, 1860, of my letters patent of May 29, 1855.

No. 1,171.—HUNTLEY, BOWMAN & CO., assignees of FREDERICK LANDON, of Brockport, N. Y.—*Improvement in Harvesters.*—Patented November 13, 1860; reissued April 16, 1861.

Claim.—The use of a traction lever connected with the axle of the drive wheel or wheels of harvesting machines, in such a manner as that the power of the team in moving the machine forward will insure a rolling motion of the drive wheel or wheels and a continuous action of the cutting apparatus, substantially as described.

No. 1,172.—HUNTLEY, BROWN & CO., assignees of FREDERICK LANDON, of Lockport, N. Y.—*Improvement in Harvesters.*—Patented November 13, 1860; reissued April 16, 1861.

Claim.—First, the combination of the frame A with the traction lever D and the axle J, to secure an automatic adjustment of the cutting apparatus to undulations of the earth in its path consistently with the effect of the traction lever D, substantially as described.

Second, the combination of the chain *r* and the projection *p* with the frame A, the lever D, and the axle J, to secure a suitable adjustment of the cutting apparatus for harvesting grain consistently with the effect of the lever D, substantially as described.

No. 1,173.—THE AMERICAN HOOP MACHINE COMPANY, assignees of JOSEPH SAWYER and SYLVESTER SAWYER, Fitchburg, Mass.—*Improved Hoop Machine.*—Patented May 6, 1856; reissued April 16, 1861.

Claim.—First, the combination of the rests before and behind the cutting point with the yielding roll L, when the former are on the side of the hoop to be dressed, and the latter bears upon the undressed or knot side, for the purpose set forth.

Second, the described combination of the rest D and the pressure roll L with the hollow-faced cutter head C, operating in the manner substantially as set forth.

Third, the method described of tapering the hoop for the lap by means of the lever T and spring stop O, operating in the manner and for the purpose set forth.

No. 1,174.—J. C. TIFFANY, of New York city, assignee to Himself and G. G. HEERMANCE, of Hudson, N. Y.—*Improvement in the Means of Promoting Combustion in the Furnaces of Steam Boilers.*—Patented April 2, 1861; reissued April 16, 1861.

Claim.—First, the combination of a chamber or flue for the heating and transmission of air

into a furnace above the fuel, with a perforated pipe therein to transmit steam mingled with the heated air through said chamber, so as to supply an amount of steam and heated air mingled together for the purpose of consuming the products of imperfect combustion evolved from the fuel, substantially as described.

Second, the method of combining and commingling the heated air and steam or gases liberated by the decomposition of steam in the heated chamber aforesaid, by which the draught through the chamber is essentially increased, and the mingled air and steam or gases liberated, as aforesaid, are thoroughly intermixed with the inflammable gases and cinders which pass off from the fuel unconsumed, and thus cause their perfect combustion, substantially as set forth.

Third, the combination of such heated chamber with its interior pipe, as described, with the furnace, at such part of the furnace as that the jet of heated air and steam of the gases liberated from the decomposition of steam may mingle with the unconsumed gases and cinders from the fuel, so that the flame arising from their combustion may come in contact with the surfaces of the boiler and flues, for the purpose and in the manner described.

Fourth, the combination of a regulated supply of heated air and steam into the combustion chamber, so as to effect a perfect combustion of the unconsumed gases and cinders from the fuel, in the manner described.

Fifth, the construction of the chamber *f*, as represented in Fig. 3, with the lugs and spikes, for the purposes and as set forth.

No. 1,175.—G. A. Cox, of Brooklyn, N. Y.—*Improvement in Bonnet Fronts.*—Patented January 17, 1860; reissued April 23, 1861.

Claim.—Providing the former A with the grooved rims I and I′ and interstices *i i*, in the manner shown and for the purpose set forth.

Second, in combination with the same, the frame composed of the parts D E and F, when arranged and operated as specified and for the purpose set forth.

No. 1,176.—Philander Shaw, of Boston, Mass.—*Improvement in Air Engines.*—Patented May 2, 1854; reissued July 17, 1860; again reissued April 23, 1861.

Claim.—First, the described auxiliary heater, constructed and arranged as set forth, the exhaust air and the products of combustion being passed through in one direction while the cold air from the force pump is passed through in the other, by which means the heat is extracted from the heated air and smoke, and transferred to the cold air on its way to the engine, the latter being pumped in against a pressure much less than that at which it is worked off from the main heater, as explained.

Second, passing the exhaust air which has propelled the piston directly through the fire for the purpose of economizing heat, as set forth.

Third, in combination with a tight ash-pit, into which the air for the support of the combustion within the furnace is forced, a chamber D, communicating with the ash-pit and surrounding the furnace for the passage of a portion of the air not required by the fire, which, combining with the products of combustion in the chamber E, passes off through the flue G, for the purpose of economizing heat, as set forth.

Fourth, the arrangement described of the tubes within the piston rod, the reservoir R, and the India-rubber tubes S S′, for the purpose set forth.

No. 1,177.—W. H. Seymour, D. S. Morgan, and Aaron Palmer, of Brockport, N. Y., and S. G. Williams, of Janesville, Wis., assignees of Wm. H. Seymour, of Brockport, N. Y.—*Improvement in Reaping Machines.*—Patented July 8, 1851; reissued July 10, 1860; again reissued May 7, 1861.

Claim.—A quadrant-shaped platform, arranged relatively to the cutting apparatus substantially as described, for the purpose set forth.

No. 1,178.—R. F. Loper, of Philadelphia, Pa.—*Improvement in Ship-Building.*—Patented November 13, 1847; reissued May 7, 1861.

Claim.—Constructing ships and other vessels by combining iron hollow forms of ribs or timbers with wooden sides, bottom, keel, stem, and stern posts, substantially as described.

No. 1,179.—G. M. Selden, of Troy, N. Y., assignee of D. S. McNamara, North Hoosic, N. Y.—*Improvement in Harvesters.*—Patented September 28, 1858; reissued May 7, 1861.

Claim.—First, so constructing the main frame of a grain and grass harvester, or either, as that the rear of the frame, together with the front outer corner, will be elevated above the ground to pass freely over cut grass and other obstructions, while the front inner corner of said frame is depressed down near to the ground to receive and support the shoe which supports the heel of the finger beam, as set forth, and whereby the position of the driver can be placed well back of the cutting apparatus, thus enabling him to keep a constant watch over the same without danger of falling in front of the cutters should he be thrown from the machine.

Second, also the combination of the pieces B C D and E, when arranged in relation to each other as and for the purposes stated.

Third, also the combination of the truss rods C′ with the pieces C and E, substantially as and for the purposes set forth.

Fourth, also the truss rod B′, with the frame pieces B C D and E, substantially as and for the purposes set forth.

Fifth, also the combination with the finger beam F, of the pieces E E′ and truss rod C′, or its equivalent, substantially as and for the purposes set forth.

Sixth, also the combination of a metallic guide piece n'', with arm n and cutter bar and pitman, substantially as set forth, whereby the heel of the cutter bar is left free and uncovered so as to avoid clogging, and yet is kept in place as described.

Seventh, also the combination of stationary journal piece a with the main frame and drive wheel, substantially as set forth, whereby the frame is not only strengthened but depressed toward the ground, although a wheel of large size is used.

Eighth, also the combination of the lever 4′, spring 7, and staple 8, with journal piece a and shaft d, for the purposes set forth.

Ninth, also the combination of the cross piece S S′ and springs L″ L‴ with seat L, constructed and arranged in relation to each other as set forth.

Tenth, also the combination of the slotted tracker board N with the bent tracker iron N′ and set bolt and nut N″, substantially as and for the purposes set forth.

Eleventh, also the combination of metal piece q', bolt q, with shoe G′ and finger beam, as and for the purpose set forth.

Twelfth, also forming the metal shoe G′, substantially as described and shown in the drawings, whereby the piece E can be securely fastened to its side, so as to have a support both in front and rear of the end of the finger beam, and the inner inclined part R made to afford a proper support to the tracker, while the part x affords an even metallic surface upon which the arm r and end of the cutter bar hinged thereto can vibrate when the machine is in operation.

Thirteenth, also shoe G, for supporting the heel of the finger beam or bar, constructed as shown and described, whereby its union with the main frame and finger beam is rendered simple and strong, and in such a manner as to afford a proper metallic support to the pivot of the rear end of arm n.

Fourteenth, also the curved metallic finger bar, extension piece F′, in combination with shoe G, and the front outer corner of the main frame, whereby the finger bar is strengthened and the crank end of the pitman protected from cut stalks of grass.

No. 1,180.—G. M. SELDEN, of Troy, N. Y., assignee of D. S. MCNAMARA, of North Hoosic, N. Y.—*Improvement in Harvesters.*—Patented September 28, 1858; reissued May 7, 1861.

Claim.—First, the combination and arrangement with a hinged tongue or draught beam of a grain or grass harvester, of a lever or lifting device in such a manner as that when the upper end of the lever is drawn back by the driver the cutting apparatus will be raised by the other end of said lever above the ground and be suspended from the tongue, substantially as described.

Second, also the combination of a right-angled lever with the rear side of a hinged tongue of a grass harvester, and so connected with the shoe, which supports the heel of the finger beam and cutter bar, as that when the long arm of said lever is drawn back by the driver the power will be communicated from the short arm of said lever to said shoe, causing it, together with the cutting apparatus, to be raised or elevated above the ground and suspended from the tongue for the purposes stated.

Third, the combination of finger beam F, shoe G, adjustable connexion I″, lever I, and hinged tongue, or their equivalents, substantially as described.

No. 1,181.—G. M. SELDEN, of Troy, N. Y., assignee of D. S. MCNAMARA, of North Hoosic, N. Y.—*Improvement in Harvesters.*—Patented September 28, 1858; reissued May 7, 1861.

Claim.—First, the combination of the following elements in a grain or grass harvester, viz: a main frame, a hinged tongue, and two lever arrangements, whereby the driver, from his seat on the machine, can use his feet or his hands, or both, to raise the cutting apparatus and surpend the same from the tongue, for the purpose of passing over cut grass or obstructions in the path of the machine.

Second, also the combination of lever J J′ with the slotted lever I, substantially as and for the purposes stated.

Third, also the combination of levers J J′ and I, and the hinged tongue H H′, connexion I, lever K, and stop piece K′, substantially as set forth.

Fourth, also the combination and arrangement with the main frame of a grass harvester and a hinged tongue, to the rear of which is fulcrumed a lever for raising the finger bar by a backward motion of the driver, of a stop, in such a manner as that when the finger beam is raised above the ground its weight thus raised will be borne by the tongue, while the strain due to holding said lever back will be borne by the main frame, to which the stop device is hinged.

Fifth, also the combination with the main frame of a grass harvester, or mowing machine,

of a hinged tongue having a lever fulcrumed to the rear inner side thereof, together with a seat for the driver, the latter being so arranged that the position of the driver will be over the rear of the main frame, and so that he can use his right hand to draw the lever back by a direct backward motion of his arm or body, or both, thus raising the cutting apparatus, while the reins are kept fast and taut in the other hand, and the team under full control.

No. 1,182.—G. M. SELDEN, of Troy, N. Y., assignee of D. S. MCNAMARA, of North Hoosic, N. Y.—*Improvement in Harvesters.*—Patented September 28, 1858; reissue May 7, 1861.

Claim.—First, the combination of the following elements in a grass harvester, viz: a main frame, a hinged tongue, to the rear inner side of which is pivoted a lever and a cutting device, arranged in such relation to the main frame as that the front of the shoe, which supports the heel of the finger beam, will project forward beyond or in advance of the front of the main frame, so as to permit of a free up and down motion in advance of the inner front corner of the main frame of the connexion which connects the shoe with the lifting device or lever, whose fulcrum or journal is on the rear of the hinged tongue.

Second, also the combination and arrangement of the main frame which supports the crank shaft, and the shoe which supports the heel of the finger beam and cutter bar, and the hinged tongue by which the machine is drawn, in such manner as that the end of the pitman, which connects the crank shaft, will work in front of the front outer end or corner of the main frame, which is elevated above the ground, while the other end of the pitman, which is connected with the heel of the cutter bar, will incline down in front of the inner front corner of the main frame to the shoe, which supports the heel of the finger beam, and which shoe is depressed below the front outer corner of the main frame, and supported so as to run on the ground, whereby the crank end of the pitman is elevated above obstructions, and at the same time its motions are not obstructed or interfered with by the front of the main frame on the rear of the hinged tongue under which it works.

Third, also the combination with the main frame of a grass harvester of a hinged tongue, or draught beam, and a metallic shoe to support the heel end of the cutter bar and finger beam, substantially as set forth; that is to say, so that the hinge of the tongue will be in rear of the pitman which operates the sickle bar, while the front end of the shoe extends forward and is connected to an adjustable lifting connexion which works in front or advance of the pitman, in combination with a right-angled lever, or its equivalent, fulcrumed to the rear inner side of said tongue.

Fourth, also so arranging a right-angled lever fulcrumed on the rear inner side of a hinged tongue of a mowing machine as that its horizontal arm will project forward as far, or nearly so, as the front of the shoe which supports the heel of the finger beam, so as to prevent undue twisting of the parts or the adjustable connexion by which they are connected when the driver is raising the cutting device.

No. 1,183.—F. G. SEYMOUR, of Waterbury, Conn., assignor to the WATERBURY BRASS COMPANY.—*Improvement in Making Brass Kettles.*—Patented May 13, 1856; reissued May 14, 1861.

Claim.—First, the production of kettles and articles of similar character, by the combined processes of stamping, to produce a preliminary shape, and spinning, to complete the ultimate or finished form, substantially as described.

Second, the new method or process, substantially as described, of stamping up vessels by a mode of operation in which the bottom is stamped up first and the sides are then formed or drawn in successive lengths by means of dies, substantially as set forth; and this, whether the vessel be entirely finished by this new stamping process, or whether it be completed by a spinning process subsequent thereto.

No. 1,184.—J. R. ROBINSON, of Boston, Mass.—*Improvement in Steam Boiler Furnaces.*—Patented March 5, 1861; reissued May 14, 1861.

Claim.—First, the gas-mixing chamber B constructed in the rear of the bridge wall C, with a covering arch F, and openings *d d* in the said arch, substantially as described.

Second, providing a boiler furnace with one or more trunks *e*, or equivalent independent outlets from the fire chamber for the exit of the lighter gases of combustion, substantially as specified.

Third, the combination of one or more trunks *e* with a gas-mixing chamber B, substantially as specified.

No. 1,185.—JOHN BRAYLEY, of Buffalo, N. Y., administrator, and MARY PITTS, of Buffalo, N. Y., administratrix, of the estate of John A. Pitts, deceased, late of said Buffalo.—*Improvement in Horse Power.*—Patented July 4, 1854; reissued May 14, 1861.

Claim.—First, so combining an internal gear main driving wheel with two pinions working at diametrically opposite sides thereof as that the said main wheel may move in a direction transverse to that of a line drawn through said pinions, for the purpose of allowing said main wheel to automatically adjust itself to said pinions, substantially as and for the purpose set forth.

Second, hanging the pinions of a double-geared horse power in adjustable bearings so that they may be set close mesh with the main or master wheel, substantially as described.

Third, in so combining the pinions and bevel wheels upon one shaft, in pairs, and supporting them in adjustable bearings as that their shafts may be kept in a perpendicular position whilst the two gears are made adjustable to the respective wheels that they mesh with, substantially as described.

No. 1,186.—EMERSON GAYLORD, assignee of L. M. FERRY, of Chicopee, Mass.—*Improvement in Hose Coupling.*—Patented October 7, 1856; reissued May 21, 1861.

Claim.—Giving to one of the parts B a simultaneous, vertical, and lateral movement, substantially in the manner and for the purpose shown and described.

Also, the combination with each other, and with the parts A B of the bevel-lipped hood *a a* and bevel-faced flanch *b b*, in the manner shown and described.

Also, constructing the hook *a a* and flanch *b b*, respectively, with hook and recess *h h'*, as and for the purpose shown and described.

Also, the combination with the parts A B of the inclined faced flanch *b'*, staple *c*, and wedge *d*, in the manner and for the purpose shown and described.

No. 1,187.—H. G. NELSON, of Mexico, N. Y.—*Improvement in Water Wheels.*—Patented August 28, 1860; reissued May 21, 1861.

Claim.—First, the combination of the polygonal flanged adjustable collars F F' *c* with buckets G formed of simple plates of metal or other material forming connexions between the said collars and secured to the flanches *c* by bolts *b'*, all as shown and described and for the purposes explained.

Second, the arrangement of the gates I I, shafts H H, and sectors J J, with the shaft D, vent C, and case A, all as shown and described, for the purpose set forth.

No. 1,188.—CHARLES PERLY, of New York, N. Y.—*Improved Direct and Counter Motion Winch.*—Patented May 29, 1849; reissued May 21, 1861.

Claim.—The disc *d*, provided with a handspike socket, and fitted upon the shaft carrying the winch head, and acting through the agency of pawls and ratchet teeth to rotate the winch in either direction, as set forth.

Also, the pawl 5 fitted to act on either side of its centre 6, that is, on the stanchion or timber, and take the teeth when moving in either direction, as specified.

No. 1,189.—F. A. REDINGTON and GEORGE MCCLUER, of Fredonia, N. Y.—*Improvement in the Manufacture of Cheese.*—Patented February 8, 1859; reissued May 21, 1861.

Claim.—First, the described combination of the water box A, milk vat B, boiler E, and reserve water box G, with a six waycock F, or substantially equivalent device, for forming a double communication between the boiler and either one of the water boxes exclusively, in the manner and for the purposes shown and explained.

Second, the arrangement in the described connexion with the water box A, milk vat B, and boiler E of the discharging water pipe *g*, extending from the top of the boiler into the box A, and lengthwise beneath the bottom of the vat B, to uniformly heat the contents thereof, in the manner and for the purpose shown and explained.

No. 1,190.—H. D. STOVER, of New York, N. Y.—*Improvement in Wood Planing Machines.*—Patented December 18, 1860; reissued May 21, 1861.

Claim.—The arrangement of the two screws E for elevating, lowering, and retaining the planing cylinder O in position, parallel with the face of the platen, substantially as described, when combined with the platen B, operated movably to carry the lumber which is being dressed by the planing cutters, or stationary as a bed piece over and upon which the lumber is moved by feeding rollers to the cutting blades, in order that the entire cutting cylinder may be readily, easily, and positively elevated or lowered and positioned as desired, and at all times fixed for use in such position parallel to the face of the platen, ready for correctly dressing the surface of lumber at whatever elevation the planing cylinder may be placed.

Also, encasing the raising and lowering screws E within the uprights C in which they operate, in order to effectually exclude dust, dirt, and shavings.

Also, providing the planing cylinder O with sectional cutting blades P, each imparting or performing a shearing or drawing stroke or cut, essentially as described, to effect a nearly equal cut during the entire revolution of the planing cylinder, and so as to be easily removed, sharpened, and reset for use.

Also, forming that portion of the planing cylinder O which is immediately back of the edges and in contact with the face surface of the cutting blades at an angle varying from 5° to 45° from the plane or face surface of the cutting blades, as the material being planed may require.

Also, suspending the drive shaft S 2 in movable journal boxes T, and so connecting them to the planing cylinder O by rods U, or otherwise, that the axis of the drive shaft and the axis of the planing cylinder will always be equidistant from each other, to retain an equal uniform tension of the driving belts at whatever elevation the planing cylinder may be placed.

Also, driving the platen B back and forth by means of the friction slide A' and friction wheel D', and the rack B' and pinion C', substantially as described.

Also, starting, stopping, and reversing the movement of the platen B by means of screw M′, arranged substantially as described, for forcibly engaging the friction wheel D′ with the friction slide A′, which is attached to the platen, or engaging or gearing the pinion C′ with the rack B′, which is also connected to the platen, in order to easily and gradually start the platen and a heavy piece into motion, and to quickly start the platen and a light piece into motion, as may be required.

Also, the arrangement of the crosshead M which carries the planing cylinder O with the uprights C by adjustable jib slides N, substantially as described, when combined with platen B, which may be operated movably or as a stationary bed for the lumber.

Also, pivoting, and giving a vertical adjustment by slot C 4 and pin K′, or otherwise, to the journal box H′ which carries the operating end of the friction drive roll shaft, so that it may freely swing and revolve when its friction drive roll is engaged or disengaged from its friction slide A′ on the platen, and at the same time allow it vertically to adjust itself by means of the vertical movability of the journal box for causing the friction drive roll D′ to correctly engage with its slide A′, for the purpose set forth.

Also, providing the platen B, which is operated both movably and stationarily, with several holding dogs C′ operated independently of each other by cams X′, or otherwise, to hold several distinct and separate pieces while being dressed.

Also, providing the feed roll frame with slides so adjusted to the bed piece of the machine that the feed rolls may be readily slid, or position therein for use, and removed therefrom.

Also, suspending, raising, and lowering the crosshead which carries the planing cylinder by universal globular bearings, which are operated by and constitute the nuts for the screws E, to allow a ready parallel or desired adjustment of the crosshead in first constructing the machine, and also to admit a free, untrammelled, and parallel movement to the planing cylinder, and at the same time retaining a firm working position at whatever elevation it may be placed.

Also, a conductory, A 4, made of any suitable material, open near the planing cylinder, and at such other place as may be desired, when so combined with the planing cylinder that its velocity and the current of air thereby set in motion will remove the dust and shavings away from the machine through this conductory to such receptacle or place as may be desired.

Also, the arrangement of the elastic surfaced pressure roll C 4 with the adjustable rigid pressure roll D 4, and adjustable scraper F 4 attached to and carried by the crosshead M. by means of stands B 4, or otherwise, so that either the rigid roll or scraper can be used with the elastic roll C 4 at pleasure, or as may be required, essentially as described, when combined with the planing cylinder, for the purpose set forth.

Also, so constructing the ways or slides of the bed piece A, and of the platen B, essentially as seen at A 2 and A 3, so that the platen may have a longer movement and not tip or become unsteady when more than half its weight projects over the end of the bed piece, thereby increasing the capacity of the machine so as to plane longer pieces than could be done by planing machines with the same length of bed and provided with the ways heretofore known.

Also, the iron uprights C carrying the elevating screws E for raising, lowering, and positioning the planing cylinder accurately with the top face of the platen, essentially as described, when combined with the bed piece which carries the platen for dressing the lumber, essentially as set forth.

No. 1,191.—R. R. TAYLOR, of Reading, Pa.—*Improved Steam Hammer.*—Patented January 1, 1861; reissued May 21, 1861.

Claim.—First, combining the vibrating wooden helve G with the hammer block, moving in vertical guides, and with a double acting steam cylinder, when the latter is connected to the wooden helve at a point between the centre of the helve's vibration and the hammer, as and for the purpose set forth.

Second, operating both exhaust and steam valves by means of the projections *j* on the helve and the slotted lever *h*, with its adjustable set screws *k* and *k′*, the whole being arranged and operating as set forth, for the purpose specified.

No. 1,192.—EDWARD MAYNARD, of Washington, D. C.—*Improvement in Metallic Cartridge Cases.*—Patented January 11, 1859; reissued May 28, 1861.

Claim.—A double-bottomed cartridge composed of an elastic metal cup and an exterior metallic disc, the said cup and disc being permanently united with each other by soldering, or some other similar process, substantially in the manner set forth.

No. 1,193.—G. D. BALDWIN, of New York, N. Y., assignee of J. H. BUTTERWORTH, of Dover, N. J.—*Improvement in Door Locks.*—Patented April 11, 1846, and extended; reissued June 4, 1861,

Claim.—First, the pawl described, or its equivalent, when combined with a movable talon that can yield to the pressure of the key bit or key to a point beyond its range, in the manner and for the purpose set forth.

Second, the use or employment of one or more sets of rotating cam or disc plates, such as described, having two or more in a set, on the same stem, when so combined with a tumbler or tumblers that lock the main bolt, so that it cannot be withdrawn until all the plates are rotated in such a position relative to the tumbler that the resisting parts can enter the notches

in the circular cam plates, pass within the line of their periphery, and so allow the tumbler to withdraw from contact with and resistance to the withdrawal of the bolt.

Third, the use or employment of cam or disc plates, two or more, in a set having the same centre or key bolt, when so constructed that one plate only is attached to the key bolt, the next plate being moved by the pin projecting from its surface coming in contact with the ends of the slits described, or in any analogous manner that allows the plate acted upon by the key to move, during a part of its revolution, without engaging and carrying around the next plate.

Fourth, the use or employment of plates such as are described, two or more in a set, when so constructed and arranged as to require the motion of the key to be reversed, in order to set each succeeding plate into such a position that the tumblers can descend into their notches and relieve the bolt.

Fifth, the use of a plurality of cam or disc plates in one set, operated by one key, key bolt or stem, when so constructed that the plates are to be set consecutively by means of the same key, key bolt, stem, or their equivalent, each plate to its own proper position, according to the existing combination, by the aid of the same index, so as to relieve the bolt from the tumbler or other mechanism combined with the plates, that has kept the bolt from being drawn back.

Sixth, the use or employment of a disc or cam plates, such as described, combined by levers, or their equivalent, with the talon that draws back the bolt, when so arranged that the talon is thereby withdrawn beyond the range of the key bit, and only allowed to come within its range so as to be acted upon by it when the plates have been brought into such a position as to allow that part of the levers that rest upon the edges of the plates to pass into the notches with the line of their periphery.

Seventh, separate pieces of metal, 2 2 2 2, moving upon pins, when used in connexion with cam plates, so as to change the point of contact between the plates themselves, and thus diversify, regularly or irregularly, the combination of permutation locks.

No. 1,194.—RICHARD VOSE, of New York, N, Y.—*Improved Car Spring.*—Patented January 3, 1860; reissued June 4, 1861.

Claim.—Placing the India-rubber discs of said springs between interposed discs formed of some fibrous material, substantially in the manner and for the purpose set forth.

Also, when the India-rubber discs in a car spring are placed between interposed discs formed of some fibrous material, the combining internally grooved metallic rings C C with the peripheries of said discs, substantially in the manner and for the purpose set forth.

No. 1,195.—J. A. VAUGHN, of Cuyahoga Falls, Ohio.—*Improvement in Grain Separators.*—Patented April 24, 1860; reissued January 8, 1861; again reissued June 11, 1861.

Claim.—The combination of a series of zizzag riddles and directing boards, having a shake motion imparted to them with a short fan, when arranged to operate therewith substantially as described.

No. 1,196.—J. A. VAUGHN, of Cuyahoga Falls, Ohio.—*Improvement in Grain Separators.*—Patented April 24, 1860; reissued January 8, 1861; again reissued June 11, 1861.

Claim.—In combination with a series of zigzig screens or riddles, and a series of directing boards having a shake motion, the stationary receiving chambers, for receiving the material from the screens, substantially as herein described.

Also, the combination of the series of zigzig screens and directing boards having a shake motion, the stationary receiving chambers, and short fan, when arranged to operate substantially as herein described.

Also, the combination of the directing board P, cockle riddle Q, and cockle board, substantially as and for the purpose herein described.

No. 1,197.—IRA PEREGO, jr., New York, N. Y.—*Improvement in Shirt Bosoms.*—Patented September 25, 1860; reissued June 11, 1861.

Claim.—First, a shirt bosom made with a stiffening strip or strips of suitable material, applied substantially as and for the purposes herein set forth.

Second, a shirt bosom having the upper portion thicker and stiffer than the lower portion, substantially as herein described.

No. 1,198.—LEWIS MOORE, of Ypsilanti, Mich.—*Improvement in Seeding Machines.*—Patented August 31, 1858; reissued June 18, 1861.

Claim.—First, the zigzag-shaped strip D, in combination with a seed hopper, substantially as and for the purpose set forth.

Second, the combination of the thin zigzag-shaped strip D, reciprocating bar C, and adjustable perforated gage plate B *b b' c c*, and hopper A *a*, substantially as and for the purposes described.

Third, the combination of the gage plate B, which has its ends *s* extending beyond the hopper, and has two different sized sets of seed cells *b c*, with the stationary perforated bottom A *a*, and a vibrating seed-agitating bar, substantially as and for the purposes set forth.

No. 1,199.—CHRISTIAN SHARPS, of Philadelphia, Pa.—*Improvement in Breech-Loading repeating Fire-Arms.*—Patented January 25, 1859; reissued June 18, 1861.

Claim.—First, exploding in succession a number of cartridges of the class described, by means of a projection caused to revolve by the movement of the hammer, when the said cartridges are so arranged, in respect to the projection, that the latter shall strike the edge only of each cartridge in succession, as set forth.

Second, the lever M, with its projection V, and the rod N, in combination with the barrel block and its stock, when the whole is arranged as set forth, and when the lever M is so formed as to serve the purpose of a trigger guard.

Third, causing the spent cartridges to be withdrawn from the barrel during the moving out of the latter, by means of a clip or clips *t*, applied and operating substantially as set forth.

No. 1,200.—WILLIAM N. WHITELEY, of Springfield, Ohio, assignee, through mesne assignment, of J. L. HARDEMAN, deceased, late of Arrow Rock, Mo.—*Improvement in Machines for Cutting Hemp.*—Patented August 20, 1850; reissued June 18, 1861.

Claim.—First, in combination with the arm or finger bar *d* and main frame *o*, when constructed substantially as described, the projecting point *f*, constructed and connected as shown, for the purposes specified.

Second, in combination with the shafts, or their equivalents, and a cutting apparatus projecting out from one side of the main frame, the adjustable clevis, or its equivalent, arranged for shifting the point of draught, for the purpose specified, substantially as described.

No. 1,201.—WILLIAM N. WHITELEY, jr., of Springfield, Ohio, assignee, through mesne assignment, of J. L. HARDEMAN, deceased, late of Arrow Rock, Mo.—*Improvement in Machines for Cutting Hemp.*—Patented August 20, 1850; reissued June 18, 1861.

Claim.—First, in combination with a cutting apparatus which projects out from one side of the main driving wheel frame the sustaining rod *h*, or its equivalent, arranged and operating substantially as described, for the purpose set forth.

Second, in combination with a cutting apparatus which projects out from one side of the main driving wheel frame the sustaining rod *h*, wedge *a a a*, Fig. 4, and revolving cone, substantially as described, for discharging the cut grain in the manner specified.

No. 1,202.—WILLIAM N. WHITELEY, jr., of Springfield, Ohio, assignee, through mesne assignment, of J. L. HARDEMAN, deceased, late of Arrow Rock, Mo.—*Improvement in Machines for Cutting Hemp.*—Patented August 20, 1850; reissued June 18, 1861.

Claim.—First, in combination with the main ground wheel frame and cutting apparatus of harvesting machines the rack or comb which has no shaft passing through its centre, and the ribs or fans of which have no connexion with each other at their ends projecting over the cutting apparatus, substantially as described.

Second, the use of the rack or comb as a substitute for the reel of the harvesting machine, the ends of the ribs of said rack which are projected out over the cutting apparatus having no connexion with each other or with said apparatus, substantially as described.

Third, in combination with the main ground wheel frame and cutting apparatus of harvesting machines, the latter of which projects out from one side of the former, the rack or comb, the ribs or fans of which move backward in, or nearly in, a horizontal plane, instead of in the arc of a circle, substantially as described.

No. 1,203.—WILLIAM N. WHITELEY, jr., of Springfield, Ohio.—*Improvement in Harvesters.*—Patented November 25, 1856; reissued June 25, 1861.

Claim.—First, in combination with the main ground wheel frame of a harvesting machine the sector plates *f f'*, provided with the adjustable boxes *g g'*, or their equivalents, substantially as shown and described, for the purposes specified.

Second, in combination with the sector plate *f* a projecting lip for the shipper's fulcrum pin, substantially such as shown and described, for the purposes specified.

Third, retaining the pinion on its shaft by means of the shipper, or its equivalent, by which said pinion is thrown in and out of connexion with its clutch pin, substantially as shown and described, for the purpose stated.

Fourth, so connecting or combining the driver's seat of harvesting machines with the front end of the frame of the same, when used for reaping, that when the driver is on his seat his weight will either raise and hold up the rear end of the wheel frame to which the cutting apparatus is connected, or both the rear end of the frame and the centre of the finger bar, for the purposes specified.

No. 1,204.—NATHAN COPE and WILLIAM HODGSON, of Cincinnati, Ohio.—*Improvement in Butterfly Valves.*—Patented May 10, 1859; reissued July 2, 1861.

Claim.—First, making the opening or openings controlled by the governor valves of steam engines of gradually increasing capacity from the closed to the open position, when

the valve and case are constructed and arranged to operate substantially in the manner herein specified.

Second, controlling the excess of motion imparted to the governor valves by means of the adjustment represented and described.

No. 1,205.—JEREMIAH STEVER, of Bristol, Conn., assignor, through mesne assignments, to JAMES H. ASHMEAD, E. HURLBURT, E. W. SPERRY, S. S. ROGES and GREEN KENDRICK, of State aforesaid.—*Improvement in Machines for Burnishing Metals.*—Patented May 1, 1855; reissued October 11, 1859; again reissued July 2, 1861.

Claim.—The combination of these three things, viz: a tool proper for burnishing metals and caused to traverse mechanically, a rest or support for the article to be burnished, and a contrivance for holding the tool and article to be burnished, in working contact by a yielding or spring pressure, the combination being substantially such as specified.

No. 1,206.—JAMES S. UPTON, of Battle Creek, Mich.—*Improvement in Horse Power.*—Patented February 5, 1861; reissued July 2, 1861.

Claim.—First, the employment of the centre pinion G, when provided with a flanched collar *c*, which fits into a corresponding opening in the bevel wheel I, by means of which a firm and at the same time an easily separated connexion is formed between the wheels, as set forth.

Second, the combination of the pinion G with the wheels I and L and shaft J, also the combination of shaft J with wheels D and K, so that more power and less speed may be used or the converse, substantially as specified.

Third, the arrangement of the shoe *c*, the levers M and N, and the connecting bar *o*, when the same are constructed and used in the manner and for the purposes set forth.

No. 1,207.—A. A. HOTCHKISS, of Sharon, Conn., administrator of the estate of Andrew Hotchkiss, late of said Sharon, deceased.—*Improved Projectiles for Rifled Ordnance.*—Patented October 16, 1855; reissued July 2, 1861.

Claim.—First, constructing a projectile in three parts, one of them of flexible or plastic material, in the form of a ring, interposed between the other two parts formed of a harder material, and so arranged that in the act of loading or of firing, or of both, the resistance or the explosive effect of the powder acting on a larger sectional area of the part E than the section of the ring C, shall cause the latter to be so expanded or distended that it shall take the impression of the grooves and be made to fit the bore of the gun, as described.

Second, the tail piece for securing the cap to the body of the shot and as a guide to the cap in its forward motion, in the manner described.

No. 1,208.—PATRICK S. DEVLAN, of Elizabethport, N. J.—*Improvement in Journal Boxes.*—Patented September 25, 1860; reissued July 9, 1861.

Claim.—The employment of paper pulp or pulp made of any vegetable fibrous material, to form the bearing surface of journal boxes, substantially as set forth.

No. 1,209.—PATRICK S. DEVLAN, of Elizabethport, N. J.—*Improvement in Journal Boxes.*—Patented September 25, 1860; reissued July 9, 1861.

Claim.—Forming the bearing surfaces of journal boxes of a composition of vegetable fibrous matter and fine earthy substance, substantially as described.

No. 1,210.—ANDREW M. HALL, of West Falmouth, Me., assignor to JAMES A. SAXTON, of Canton, Ohio.—*Improvement in Mowing Machines.*—Patented December 3, 1856; reissued July 9, 1861.

Claim.—First, the combination with the heel of a finger beam, so connected or hinged to the main frame of a mowing machine, as that the entire bar can rise or fall, independent of the up and down motions of the main frame of a self-adjusting, hinged plate, or auxiliary shoe, for the purposes of allowing the points of the guards or fingers to freely adapt themselves to the character of the ground over which the machine passes while in operation.

Second, in combination with a self-adjusting auxiliary shoe or plate, as set forth, of an adjusting screw or bolt, for the purposes stated.

Third, the combination of the adjustable metallic plate M with its ears N N, and otherwise constructed as described, with the heel of the finger beam and main frame, as set forth.

Fourth, the combination of the bent lever J and its operating mechanism, and hinged oscillating cutters *j*, with a hinged finger beam, for the purposes stated.

No. 1,211.—WILLIAM A. KIRBY, of Buffalo, N. Y., and DAVID M. OSBORNE, of Auburn, N. Y., assignees of said WILLIAM A. KIRBY.—*Improvement in Harvesters.*—Patented November 15, 1859; reissued July 9, 1861.

Claim.—In combination with a cutting apparatus and a platform having a side delivery, and both placed in rear of a line drawn through the front of the main wheel, the raker's seat located at the side of the platform, and arranged so that the raker sits behind the main frame and facing the falling grain, substantially as and for the purpose described.

No. 1,212.—ELISHA WATERS, of Troy, N. Y.—*Improvement in Making Paper Boxes.*—Patented February 2, 1858; reissued July 9, 1861.

Claim.—Annular boxes of paper board, constructed by cutting the said board into strips or pieces for the sides, and into parts for the top and bottom thereof, forming the upright angles or corner, one by one, by pressing the said strips or pieces between male and female dies corresponding to and with the angle or corner to be turned or formed, substantially as described and set forth.

Second, the flanches B and E, formed upon the sides A and D, by pressing the paper board or strip between dies, in proper form, thus and thereby constructing said flanches to receive and combine the same with the top or bottom of the said box, as described and set forth.

Also, forming the corners of paper boxes by pressing the same between cold or hot dies constructed for that purpose, as described and set forth.

No. 1,213.—SAMUEL J. SEELY, of New York, N. Y., assignor to CHARLES W. DURANT, of the same place.—*Improvement in Iron Railway Cars.*—Patented April 24, 1860; reissued October 2, 1860; again reissued July 9, 1861.

Claim.—First, the application and use of corrugated metal plates to and in the construction of railroad cars and other vehicles, when the said plates are applied and used in a single series or thickness with their corrugations running horizontally, as set forth.

Second, the application and use of corrugated metal plates to and for the purposes named, when two or more series or thicknesses of plates are used, when the outer series of said plates has its corrugations running horizontally, as set forth.

Third, the application of corrugated metal plates, combined with and secured to and upon the angle irons *a b c d*, for the construction of the bodies of railroad cars and other vehicles, as set forth.

Fourth, the application of the said corrugated metal plates and angle irons, combined with the trough irons E, as set forth and for the purpose described.

No. 1,214.—ALEXANDER T. WATSON, of Castleton, N. Y.—*Improved Railroad Car Spring.*—Patented March 20, 1860; reissued July 16, 1861.

Claim.—First, the manner of arranging and combining the two spring blades B B′, in pairs of different lengths and curves, vertically, as described, so that the curves of the blades, when under pressure, will not be liable to fracture from coming to too sharp an angle.

Second, the form of the casting or frame A A, by which the springs are held in position and made to operate in the manner described.

No. 1,215.—JEFFERSON NASH, of Janesville, Wis., assignor to Himself and ALONZO K. CUTTS, of the same place.—*Improvement in Grain Separators.*—Patented September 27, 1859; reissued July 23, 1861.

Claim.—First, the arrangement and combination of a vibrating lever E, the elbow crank *f*, and the rods *e* and *h*, whereby the motion of the shoe can be changed from a longitudinal to a transverse direction, and *vice versa*, substantially as described.

Second, making a grain separator with apertures in its sides or casing L, through which to allow the shoe M to vibrate, substantially as and for the purpose described.

Third, giving a lateral body motion of the entire shoe M, when constructed substantially as described, in combination with a longitudinal motion of a screen H, substantially as and for the purposes described.

Fourth, finally the rod *k*, in combination with sieve or screen H and step *l*, for the purpose of giving a jog or slight up and down motion as the separator is operated, substantially as described.

No. 1,216.—JOHN YOUNG, of West Galway, N. Y.—*Improvement in Washing Machines.*—Patented September 19, 1848; reissued July 30, 1861.

Claim.—First, the combination of the rollers with the hinged platform, for the purpose of rubbing the cloth and squeezing the water therefrom, substantially as and for the purposes described and specified.

Second, the employment and use of elastic rollers which shall readily yield to any inequalities in the clothes passing through them, and thereby prevent injury, substantially as and for the purpose specified.

Third, the employment of the conical rollers for producing a rubbing as well as squeezing motion on the clothes passing between them, whereby the operation of washing is greatly accelerated, substantially as and for the purposes described and specified.

No. 1,217.—HIRAM TUCKER, of Newton, Mass.—*Improved Spring Bed Bottom.*—Patented July 3, 1855; additional improvement June 9, 1857; reissued April 5, 1859; again reissued August 6, 1861.

Claim.—A spring bed bottom constructed and operating substantially as described.

No. 1,217½.—RICHARD YOSE, of New York, N. Y.—*Improved Car Spring.*—Patented June 5, 1860; reissued August 6, 1861.

Claim.—Giving such a shape to the metallic sections, which are interposed between the elastic sections of the improved car spring, as will produce any desired number of air cavities or spaces between the bearing surfaces of said sections, substantially as set forth.

Also, giving such a shape respectively to the elastic and the inelastic sections of my improved car spring as will allow the former, while under pressure, to yield freely at their outer and inner peripheries, whilst the sides of the said elastic sections are allowed to yield into air cavities between the bearing surfaces of the unelastic sections of said spring, substantially as set forth.

No. 1,218.—S. E. OVIATT, of Richfield, Ohio.—*Improvement in Threshing Machines.*—Patented July 10, 1860; reissued August 13, 1861.

Claim.—First, the employment or use of suction tubes or pipes, in combination with the beater or threshing cylinder of a grain threshing machine, for the purpose of receiving or "sucking in" the dust evolved during the operation of threshing and discharging the same at any convenient point, free from the operators or attendants, when arranged and operating substantially as set forth.

Second, the endless feeding apron and screen J, arranged in relation to the threshing cylinder G, to operate as and for the purpose specified.

No. 1,219.—JOSEPH F. POND, of Cleveland, O.—*Improved Washing Machine.*—Patented May 22, 1860; reissued August 13, 1861.

Claim.—First, the adaptation to a common wash-tub T of a separate portable frame which supports the washing mechanism, consisting of the upright pieces B B, the fluted roller R, and yielding bed C, constructed, arranged, and combined in the manner and for the purpose set forth.

Second, the obliquely fluted spring bed C, in combination with the fluted roller R, arranged and operating substantially as and for the purposes specified.

No. 1,220.—T. H. DODGE, of Washington, D. C., assignor of P. H. KELLS, of Adrian, Mich.—*Improvement in Harvesters.*—Patented March 21, 1854; reissued August 13, 1861.

Claim.—First, attaching the shoe which runs on the ground and supports the heel of the finger beam in a mowing machine to the front inner corner of the main frame, in combination with the use and employment of a single drive wheel, a short finger beam, a hinged tongue, and a small supporting wheel, whereby, as the machine is advanced, the finger beam is allowed to conform to the inequalities of the ground without danger of dragging cut grass, substantially as described.

Second, the arrangement with the main frame of a mowing machine of a hinged tongue and a single main supporting and driving wheel in such a manner that the weight of the frame and the finger beam will preponderate in front of the axis of said wheel, in combination with supporting the front part of the frame with a small wheel arranged to run on the ground cut by a previous swath in range with the heel of the finger beam, whereby the cutter will be allowed to run close to the ground, and yet the points of the cutters and guards prevented from being thrust into the ground in passing over water furrows and uneven surfaces, substantially as described.

Third, the combination, in a mowing machine, of a main frame of a proper rolling support to said frame, combined with mechanism for giving motion to the cutter, a short finger beam having a shoe which runs upon the ground interposed between it and the main frame, and a hinged draught beam or tongue, when constructed and arranged in relation to each other, so that when the machine is advanced by the team the cutter will not only be operated, but will also, together with the finger beam, have the capability of rising and falling to conform to the inequalities of the ground, independent of the up and down motions of said rolling support to the main frame, while both ends of main frame are maintained in elevated positions, so as to be out of the way of cut grass, short stumps, and similar obstructions, substantially as described.

Fourth, the combination with the shoe which runs upon the ground and supports the heel of the finger beam in a mowing machine, the cutter having the capabilities stated in the third claim, of a small guiding, leading, or supporting wheel, whereby undue friction of said shoe and finger beam upon the ground is prevented, and the operation of the machine is rendered more uniform and easy, and a close cut of stubble insured, as described.

Fifth, the combination in a mowing machine having the advantages of an open and unobstructed space and a single drive wheel, as claimed by Wm. F. Ketchum in his patent of July 10, 1847, and reissued April 26, 1853, of a small wheel or roller with the heel of the short finger beam which is supported by a single downwardly projecting arm to render the action of the machine more easy, and to prevent side draught by bearing a part of the weight of the finger beam, substantially as described.

Sixth, placing or arranging the shoe part, to which the heel of the finger beam is attached in a mowing machine, out from and lower than the front corner of the main frame, in combination with supporting it in that position near the ground from the front of the frame, by

means of an upward inclined connexion or extension piece, which extends up from the heel of the finger beam and toward the front of the frame in a line in range with the finger beam, in connexion with the use of a hinged tongue or draught beam, whereby, as the machine is advanced, the front of the frame is well elevated above cut grass and other obstructions, while the finger beam and cutters are permitted to run close to the ground, and are also allowed to rise and fall to conform to the inequalities in the surface thereof, and the machines rendered of easy draught, substantially as described.

No. 1,221.—THOMAS H. DODGE, of Washington, D. C., assignee of PHILIP H. KELLS, of Adrian, Mich.—*Improvement in Harvesters.*—Patented March 21, 1854, reissued August 13, 1861.

Claim.—First, extending the rear end of the shaft which operates the pitman and cutter of a mowing machine back of the rear end of the main frame, and providing it with a small pinion wheel, in combination with extending the rear end of another shaft whose front end is geared with the driving mechanism back of the rear end of said frame, and providing it with a large cog wheel to gear into said pinion wheel, whereby, when the machine is drawn forward, a rapid motion is imparted to the pinion wheel and its shaft to operate the pitman and cutters, and whereby said rear gearing is brought near the centre of the rear of the machine, and in compact form; and also so that said rear gears can be readily examined and replaced without necessarily removing their shafts or disturbing the bearings thereof.

Second, placing the finger bar in a mowing machine at the side of the gearing and in front of the driving wheel, in combination with the use of a long eccentric or crank shaft and rear gearing, arranged as described.

No. 1,222.—THOMAS H. DODGE, of Washington, D. C., assignee of PHILIP H. KELLS, of Adrian, Mich.—*Improvement in Harvesters.*—Patent dated March 21, 1854; reissued August 13, 1861.

Claim.—The arrangement of the projecting or runner part of the shoe with the upwardly inclined connexion and main frame, substantially as described, whereby free access may be had to the shoe in advance of the frame, and, at the same time, an open and unobstructed space is left between the heel of the finger beam and the line of draught.

No. 1,223.—THOMAS H. DODGE, of Washington, D. C., assignee of PHILIP H. KELLS, of Adrian, Mich.—*Improvement in Harvesters.*—Patented March 21, 1854; reissued August 13, 1861.

Claim.—First, forming or constructing the cutters in mowing machines separately in the form shown in Figs. 2, 3, and 4, of the accompanying drawings, for the purposes specified.

Second, the use and employment in a mowing machine of a series of slotted fingers, in combination with a series of cutters fastened rigidly to their bar, in such a manner as to leave an open space between the cutters to facilitate the cleaning of the fingers as the cutter and cutter bar reciprocate through the slotted fingers.

No. 1,224.—RUFUS DUTTON, of Dayton, O.—*Improvement in Harvesters.*—Patented April 27, 1858; reissued August 27, 1861.

Claim.—The concentric rack H, in combination with the pinion I, when the same are respectively secured directly with the platform frame and the axle of the main driving wheel of a harvester, without intermediate parts, and so that by merely raising the platform with one hand the adjustment is accomplished, while, at the same time, the gear wheel and actuating pinion are perfectly meshed at any position, substantially as set forth.

Also, the hollow sleeve or bore L, enclosing the axle K and forming the bearing of the hub of the driving wheel, when said sleeve is provided with the face *c*, and projection or projections *d*, resting in the slot *b* of the plate, substantially as described.

Also, in combination with the sleeve L and the axle K, with its pinion I; also, the jam washer *g* and nut *h*, for clamping the pinion with the plate, substantially as specified.

No. 1,225.—JOHN S. HARBISON, of Sacramento, Cal.—*Improvement in Beehives.*—Patented January 4, 1859; reissued September 3, 1861.

Claim.—First, the adjustable sectional comb frames K, constructed and arranged and supported within the hive as described, so that they may be readily removed through the side or door thereof, substantially as set forth.

Second, a separate store honey box in the upper portion of the hive, constructed in sections temporarily connected together in the manner explained and for the purposes specified.

Third, the combination in a beehive of the air chamber B, ventilation passage *m*, and curtain C, substantially as and for the purpose set forth.

No. 1,226.—ROBERT J. MARCHER, of New York, N. Y., assignee of IRA S. BARBER, of Boston, Mass.—*Improvement in Machinery for Cutting Irregular Forms.*—Patented May 15, 1855; reissued September 10, 1861.

Claim.—The combination of a table or equivalent for rotating the frame to be cut, substantially as described, a pattern of the general form of the frame to be made, and two ro-

tating shafts, each carrying a suitable tracer and cutters, one of the said shafts being self-adapting to the outer, and the other to the inner periphery of pattern, substantially as described.

Also, the employment of two sets of cutters on parallel shafts, so mounted that the distance between the two shafts shall be self-adapting, substantially as and for the purpose specified, in combination with a pattern and tracers, or equivalent means for determining the oval or other general form, as set forth.

Also, arranging two cutter and tracer shafts on opposite sides of the axis of the rough frame, and one on the outside, and the other on the inside of such frame, substantially as and for the purpose specified.

No. 1,227.—HENRY B. MYER, of Cleveland, O.—*Improvement in Converting Railroad Car Seats into Beds or Lounges.*—Patented September 19, 1854; reissued May 5, 1859; again reissued October 8, 1861.

Claim.—First, the forming of berths in railroad cars by means of the backs of the transverse seats, substantially as described.

Second, the forming of berths in railroad cars by means of the transverse seats in combination with corresponding supplementary cushioned or uncushioned frames, or their equivalents, to fill up the spaces between the transverse seats, substantially as described.

No. 1,228.—BRIDGET LEONARD, of Kenosha, Wis., administratrix of ANDREW LEONARD, deceased.—*Improved Mode of Casting Seamless Skeins for Wagons.*—Patented February 24, 1857; reissued July 27, 1858; again reissued October 8, 1861.

Claim.—First, the manner substantially as herein described of producing the core I, which gives the internal form of the axle skein, and that part of the mould which gives the external form of the but thereof.

Second, the manner substantially as herein described of producing that part of the mould which gives the external form of the wearing part of the thimble skein.

Third, the manner substantially as herein described of producing an unbroken impression in sand of the external shoulder *a* of the axle skein.

Fourth, the manner substantially as herein described of uniting the base of the green-sand core with the lower section of the sand mould, which gives the external form to the thimble skein.

Fifth, the manner substantially as herein described of holding in true position, or centering the green sand cores.

Sixth, the manner substantially as herein described of producing, as a whole, a sand mould which turns out in the one operation of casting a finished seamless and shouldered cast thimble skein.

No. 1,229.—BRIDGET LEONARD, of Kenosha, Wis., administratrix of ANDREW LEONARD, deceased.—*Improvement in Cast Seamless Thimble Skeins for Wagons.*—Patented February 24, 1857; reissued July 27, 1858; again reissued October 8, 1861.

Claim.—A cast seamless thimble skein, substantially such as specified, which is not made seamless by filing, turning, or otherwise being manipulated with after it leaves the mould.

No. 1,230.—A. V. BLANCHARD, J. D. BLANCHARD, and FRANKLIN BLANCHARD, of Palmer, Mass., assignees of G. C. HOWARD, of Hardwick, Mass.—*Improvement in Spade, Shovel, or Dung-Fork Handles.*—Patented July 21, 1857; reissued October 22, 1861.

Claim.—A handle for shovels and similar or analogous implements, having its eye *b* and holder B formed by splitting or sawing longitudinally for a suitable distance the end of the bar A, and then bending the parts or arms *a a* formed by the split or kerf in the form of a fork, and securing the holder B in any suitable way between the parts or arms *a a*, whereby a new and improved article of manufacture is obtained for the purpose specified.

No. 1,231.—Cancelled.

No. 1,232.—Cancelled.

No. 1,233.—WAIT T. HUNTINGTON and HERVEY PLATTS, of Ithaca, N. Y., assignees of EUGENE M. MIX and JAMES E. MIX, of the same place.—*Improvement in Calendar Clocks.*—Patented January 31, 1860; reissued October 29, 1861.

Claim.—First, the employment in a calendar clock of a year wheel K and a detached leap-year wheel L applied to rotate about separate fixed axis, and combined and operating together substantially as specified.

Second, the combination of the year wheel K, detached leap-year wheel L, detent J, and a day-of-the-month wheel F, of the construction described, the whole operating together substantially as set forth.

No. 1,234.—E. A. TUTTLE, of Brooklyn, N. Y.—*Improvement in Registers and Ventilators.*—Patented June 19, 1856; reissued November 12, 1861.

Claim.—The construction of the valves and plates with pins or projections arranged to operate together, substantially as shown and described, without the use of any intervening parts or pieces, as set forth.

No. 1,235.—WENDELL WRIGHT, of New York, N. Y.—*Improvement in Friction Clutches.*—Patented June 15, 1852; reissued November 19, 1861.

Claim.—First, operating the friction segments to bring them into and out of contact with the inner periphery of the pulley by means of a connexion with a sleeve E sliding longitudinally upon the shaft of the pulley, substantially as described.

Second, so applying the friction segments in combination with the shaft hand pulley that the centrifugal force developed in the segments by their rotary motion shall be allowed to force them outward against the inner periphery of the pulley, and so be productive of friction between the segments and pulley, and made instrumental in or accessory to the transmission of rotary motion, substantially as described.

No. 1,236.—DENNIS G. LITTLEFIELD, of Albany, N. Y.—*Improvement in Base Burning Stove.*—Patented January 24, 1854; reissued November 19, 1861.

Claim.—In a stove which discharges the products of combustion into a flue or space external to the room in which the stove is situated, an organization which temporarily confines the gases in a coal supply chamber or pot, then ignites them above the base of the grate and passes them through an uninterrupted opening or openings extending up from the grate to the closed sides or portion of the coal supply chamber and burns them in a space or chamber laterally to the coal supply chamber or pot, then circulates the spent gases, or a portion of them, over the top of the coal supply chamber or pot, and then discharges them into and through a smoke flue passage, substantially as described.

No. 1,237.—DENNIS G. LITTLEFIELD, of Albany, N. Y.—*Improvement in Base Burning Stoves.*—Patented January 24, 1854; reissued November 19, 1861.

Claim.—First, the vertical wedge-shaped passages between the grate bars of the fire pot, substantially as described.

Second, the employment of a grated fire pot forming a downward continuation of a coal supply pot, in combination with a gas-consuming chamber or flue between the outer case and the connected fire and coal supply pot and an externally discharging spent-gas pipe, substantially as and for the purpose set forth.

Third, an illuminated exterior wall M, in combination with a coal supply chamber and an intermediate gas-consuming chamber, substantially as described.

No. 1,238.—J. S. SMITH, of New York, N. Y.—*Improvement in Epaulets.*—Patented April 12, 1859; reissued November 26, 1861.

Claim.—The construction, arrangement, and combination of epaulets, substantially as described, the same consisting of the following three elements combined:

First, a shell, or epaulet proper, with its usual appliance or appliances for its attachment to the coat.

Second, a bullion, or fringe, permanently attached or secured to a frame, plate, or what is termed an adjuster; and

Third, a mechanical device for holding the said frame, plate, or adjuster within the shell substantially in the manner and for the purposes set forth.

No. 1,239.—EDWARD LYNCH, of Washington, D. C.—*Improvement in Steam Engines.*—Patented April 12, 1859; reissued December 3, 1861.

Claim.—First, the arrangement of the several parts of the engine in their relation to each other, and to the proper shaft, as set forth.

Second, constructing the connecting rod of one of the cranks or cross-heads, in the manner described, so as to allow of its surrounding the propeller shaft, as described.

Third, acting upon the condensing water and the water of condensation, or using the opposite ends of the same double-acting pump for the air pump, and for the circulating pump of a surface condenser: that is, one end for the air pump and one for the circulating pump, substantially as described.

No. 1,240.—SAMUEL PIERCE of Troy, N. Y., assignor to JOHNSON & COX, of same place, assignors, through mesne assignments, to SAMUEL PIERCE, aforesaid.—*Improvement in Cooking Stoves.*—Patented December 6, 1845; reissued April 12, 1847, and July 31, 1847, and extended seven years December 6, 1859, and again reissued December 3, 1861.

Claim.—The extending of the front lower part of the oven under the fire grate *a'* by means of the said plate *b*, substantially as and for the purposes described and set forth.

No. 1,241.—SAMUEL PIERCE, of Troy, N. Y., assignor to JOHNSON & COX, of same place, assignors, through mesne assignments, to SAMUEL PIERCE, aforesaid.—*Improvement in Cooking Stoves.*—Patented December 6, 1845; reissued April 12, 1847, and July 31, 1847, and extended seven years December 6, 1859; again reissued December 3, 1861.

Claim.—First, the arrangement of the parts by which the fire is supplied with heated air by its passage through the apertures in the front plate or doors, and against the said plate *s* in front and down the front surface of which it must pass on its passage to the under part of the said fire chamber, and through the fire grate *c'* into the fire, substantially as and for the purposes described and set forth.

Second, the making of the top of ovens or cooking stoves of fire-brick or other earthy substance, when this is combined with a stove in which the products of combustion from the fire chamber pass first over the top of the oven, substantially as described, whereby the heat in the oven is equalized, and the vapors or gases evolved in the oven are absorbed and carried off, as described.

No. 1,242.—W. O. GROVER, of Jamaica Plain, Mass., and W. E. BAKER, of Boston, Mass., assignors to GROVER & BAKER SEWING MACHINE COMPANY.—*Improvement in Sewing Machines.*—Patented February 11, 1851; reissued June 15, 1858; again reissued December 3, 1861.

Claim.—In combination, first, an eye-pointed needle, which descends and carries its thread through the material supported on a table; second, a table which supports the material horizontally below the needle and above a thread-carrier; third, a thread-carrier below the table carrying a thread which is not passed through the material, operating together substantially as set forth, in a machine making the double-looped seam described.

Second, in combination, first, a horizontal table or support; second, a feeding apparatus; third, a stitching apparatus; each having the distinguishing characteristics specified, and operating substantially as set forth, to make the double-looped seam described.

No. 1,242¼.—S. B. SEXTON, of Baltimore, Md.—*Improvement in Stoves.*—Patented April 19, 1859; reissued December 3, 1861; again reissued December 10, 1861.

Claim.—A fuel supply chamber suspended within or above the fire box, with its lower end out of contact with the latter, by connexions which shall be out of contact with the burning fuel, and shall permit the free circulation of gases around and above the supply chamber.

Also, a cold-air chamber, combined in any manner substantially as described, with a fuel-supply chamber so applied as to permit the passage of the products of combustion around and above it.

Also, the combination of the main chamber A, fuel chamber H, flues C B E B′ D, and damper *b*, arranged and operating substantially as explained.

No. 1,243.—C. AULTMAN and L. MILLER, of Canton, O.—*Improvement in Mowing Machines.*—Patented July 17, 1856; reissued July 19, 1859; again reissued December 10, 1861.

Claim.—Mounting the two driving wheels and one main gear wheel upon a common axle, in combination with a ratchet wheel for each driving wheel, each ratchet wheel fitted with a pawl that can be made to stand in or out of gear with the ratchet teeth at will, the whole arranged and operating substantially as described.

No. 1,244.—C. AULTMAN and L. MILLER, of Canton, O.—*Improvement in Mowing Machines.*—Patented July 17, 1856; reissued July 19, 1859; again reissued December 10, 1861.

Claim.—In combination with a hinged finger bar and cutter a stop which, when the finger bar is raised up, will prevent the cutter from dropping out of its bearings, substantially as described.

No. 1,245.—J. H. LANDELL, of Newark, N. J.—*Improvement in Tent Fixtures.*—Patented June 4, 1861; reissued December 17, 1861.

Claim.—First, the combination of the conical ferrule with the rings, or either of them, in the manner described.

Second, constructing the tripod, which supports the tent pole of a ring of sufficient diameter to receive the ferrule of the lower end of the pole, and having legs attached, in the manner described.

Third, the combination of the tripod, constructed as described, with the ferrule fitted on the lower ends of the tent pole, in the manner described.

No. 1,246.—GEORGE WOOD, JOHN KING, and WILLIAM LAWRENCE, of Philadelphia, Pa., assignees of said WOOD and KING.—*Improvement in Dredging Crane.*—Patented November 9, 1858; reissued December 17, 1861.

Claim.—First, the two barrels K K, hung to the shaft J, in combination with the clutch M, or its equivalent, the whole being arranged on the deck of a vessel, and operating substantially as set forth, for the purpose specified.

Second, in combination with the aforesaid barrels and clutch, or its equivalent, the posts D and D′, each having a pulley *a* and a movable jib E, with pulleys H and G arranged in respect to the opposite sides of the vessel, substantially as specified.

Third, the carrier F, with its pulley G, and its hollow stem, as arranged, to turn in the socket in the end of the jib, substantially in the manner and for the purpose set forth.

No. 1,247.—A. A. HOTCHKISS, (administrator of Andrew Hotchkiss, deceased,) of Sharon, Conn.—*Improvement in Projectiles for Rifled Ordnance.*—Patented October 16, 1855; reissued July 2, 1861; again reissued December 24, 1861.

Claim.—First, constructing a projectile in three parts, one of them of flexible or plastic material, in the form of a ring, interposed between the other two parts, formed of a harder material, and so arranged that in the act of loading or firing, or of both, the resistance or the

explosive effect of the powder, acting on a larger sectional area of the part E than the section of the ring C, shall cause the latter to be so expanded or distended that it shall take the impression of the grooves, and be made to fit the bore of the gun, as described.

Second, locking or securing the expansive material to the body of an expansive projectile by means of one or more lips or projections extending outward from the body of the shot into corresponding recesses in the expansive material, as at *i*, or of one or more grooves or recesses in the body receive internal lips or projections from the expansive material, as at *e* or *e'*.

Third, the tail piece for securing the cap to the body of the shot, and as a guide to the cap in its forward motion, in the manner described.

No. 1,248.—C. M. WILKINS, of West Andover, Ohio.—*Improvement in Cheese Vats.*—Patented November 22, 1859; reissued December 24, 1861.

Claim.—First, the arrangement of the pipe W, heater F, and chamber L, substantially as and for the purpose specified.

Second, the combination of the valve N, arm M, to which it is attached, and the lever R, arranged for operating substantially as shown, and for the purpose described.

Third, arranging either or both of the valves N and O, in combination with their respective pipes over the fire box of the heater, substantially as and for the purpose specified.

Fourth, the use of the truss braces J J J, in the manner and for the purpose described and shown.

No. 1,249.—I. P. FRINK, of Newark, N. J.—*Improvement in Reflectors.*—Patented April 17, 1860; reissued December 24, 1861.

Claim.—First, the employment of an oblong pyramidal reflector, lined with glass or other diaphanuous material, substantially as shown and described.

Second, the combination of the cover B with a pyramidal reflector, substantially as shown and described.

Third, the combination of the hinged adjustable section C with a pyramidal reflector, substantially as shown and described.

Fourth, the combination of the beads *b b'* with a pyramidal reflector, substantially as shown and described.

Fifth, the combination of the cover B and hinged adjustable section C with a pyramidal reflector, with or without the beads *b b'*, substantially as shown and described.

No. 1,259.—CYRENUS WHEELER, jr., of Poplar Ridge, N. Y., assignee to R. T. OSGOOD, of Orland, Me.—*Improvement in Grain and Grass Harvesters.*—Patented February 17, 1852; reissued December 24, 1861.

Claim.—First, two independent driving and supporting wheels on a common axle, carrying a rectangular main frame located between said wheels, and suspended from and nearly balanced on said axle, in combination with the cutting apparatus hinged to said main frame, substantially as described,

Also, balancing the main frame, and mounting the two driving and one main gear wheel on a common axle, in combination with a ratchet wheel for each driving wheel rigidly affixed to the axle, each driving wheel carrying a pawl that will stand in gear with its ratchet wheel when the machine is advanced, and out of gear when the machine is backed, substantially as set forth and described.

Also, the down hangers, as points of attachment for the hinges, and to bring the hinges below the main frame, substantially as described.

Also, arranging the hinges by which the finger beam is connected to the main frame, and thus advanced over the ground, on opposite sides of the centre of motion, and at opposite ends of the main frame, substantially as and for the purpose set forth.

Also, giving the hinges, by which the finger beam is thus connected and advanced over the ground, a common centre or axis of motion, though located at opposite ends of the main frame, substantially as described.

Also, so connecting the cutters with the crank that four vibrations of the cutters will be given for every single revolution of the crank, substantially as described.

Also, in combination with the two independent driving wheels and a hinged cutting apparatus, a balance wheel, to equalize the motions of the cutters, and give steadiness of motion to the gearing, substantially as described.

Also, the combination, in a harvesting machine, substantially as described, of a hinged tongue, the main frame, two main supporting wheels, and the hinged cutting apparatus, for the purpose set forth.

Also, in combination with a finger beam, an adjustable sole, substantially as described.

Also, in combination with a finger beam and an adjustable sole, a lever, so arranged that the driver can by it, when in his seat, and with the machine in motion, raise or depress the cutting apparatus at pleasure, substantially as and for the purpose described.

No. 1,251.—CYRENUS WHEELER, jr., of Poplar Ridge, N. Y., assignee to R. T. OSGOOD, of Orland, Me.—*Improvement in Grain and Grass Harvesters.*—Patented February 17, 1852; reissued December 24, 1861.

Claim.—First, the combination with the main frame of two independent driving wheels and a hinged cutting apparatus, whereby the cutters are kept in operation when the machine is turned either to the right or left, and the cutting apparatus, or either end thereof, is free to conform to the inequalities of the ground, independent of the up and down motions of the driving wheels, substantially as described.

Second, the combination in a mowing machine, in the manner set forth, of the following elements, viz: a hinged tongue to draw and steady the machine, a frame to carry and support the driver and gearing, two independent driving and supporting wheels to carry the frame and give motion to the cutters, and a short finger bar so hinged to the main frame that its progressive movement over the ground will be controlled by the main frame, and the upward and downward movements of the entire finger beam, or of either end thereof, independent of the other end, by the undulations of the ground over which it is drawn, substantially as described.

Third, arranging the hinges, by which the finger beam is connected to the main frame and advanced over the ground, above the plane of cutters, substantially as and for the purpose described.

Fourth, in combination with the main frame and finger beam, so arranging the coupling arm Y that while that end carrying the beam can be brought close to, so as to permit the finger beam to travel on the ground, its other end, together with the hinges, will be carried above the ground, and free of obstructions, substantially as described.

Fifth, in combination with the main frame, and its supporting wheels, the hinged cutting apparatus located on one side of the centre of motion, and the gearing located on the opposite side thereof, substantially as and for the purpose set forth.

Sixth, in combination with the main frame, mounted on two independent driving and supporting wheels and a hinged cutting apparatus connected with the said main frame, a seat for the driver, so located that the cutters will travel in advance of the driver, substantially as and for the purpose set forth.

No. 1,252.—CYRENUS WHEELER, jr., of Poplar Ridge, N. Y., assignee of R. T. OSGOOD, of Orland, Me.—*Improvement in Grain and Grass Harvesters.*—Patented February 17, 1852; reissued December 24, 1861.

Claim.—First, a hinged finger beam, so connected to or with the main frame that while it receives its advancing movements from the main frame it will, in its upward and downward movements, conform to the surface of the ground over which it passes, substantially as set forth.

Second, in combination with the main frame and finger beam, the intermediate hinged coupling arm, whereby the progressive movements of the finger beam and cutters shall be controlled by the main frame, while in their upward and downward movements they may conform to the undulations of the ground over which they pass.

Third, the short finger beam in combination with the intermediate hinged coupling arm, substantially as described.

DESIGNS.

No. 1,366.—ROBERT ALLAN, of Camden, N. Y., assignor to A. SMITH, of West Farm, N. Y.—*Design for Carpets.*—Patent dated February 5, 1861.

Claim.—The combination and arrangement of the devices as described and represented in the drawings, as a new design for carpets.

No. 1,367.—ELEMIR J. NEY, of Lowell, Mass., assignor to LOWELL MANUFACTURING COMPANY, of same place.—*New Pattern for Carpets.*—Patent dated February 5, 1861.

Claim.—The design or pattern for carpets or other fabrics, as set forth.

No. 1,368.—ELEMIR J. NEY, of Lowell, Mass., assignor to LOWELL MANUFACTURING COMPANY, of same place.—*New Pattern for Carpets.*—Patent dated February 5, 1861.

Claim.—The design or pattern for carpets or other fabrics, as set forth.

No. 1,369.—JOSEPH D. WARREN, JAMES B. SCOFIELD, ISAAC WARDWELL and AUGUSTUS T. JONES, of Stamford, Conn.—*Design for Stoves.*—Patent dated February 5, 1861.

Claim.—The form, configuration and arrangement of the raised figures and beads, as described.

No. 1,370.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,371.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,372.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into three-ply ingrain or other carpeting, in the rorm similar to the drawings accompanying the specification.

No. 1,373.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,374.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,375.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,376.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,377.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,378.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,379.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,380.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,381.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,382.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,383.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,384.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,385.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated February 12, 1861.

Claim.—The configuration of the design, when made by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,386.—JOHN LONG, of Massilon, Ohio.—*Design for Cooking Stoves.*—Patent dated February 19, 1861.

Claim.—The combination and arrangement of the described shapes, figures, ornaments and mouldings, in a design for cooking stoves, as represented in the drawings.

No. 1,387.—SAMPSON HAINEMAN, of New York, N. Y., assignor to Himself and JULIUS NEGHBOUR, of same place.—*Design for a Trade-Mark.*—Patent dated February 26, 1861.

Claim.—The picture or figure to be used as a trade-mark, and designed as described, with the words "Magnesia Green" associated therewith, as described.

No. 1,388.—N. S. VEDDER, of Troy, N. Y.—*Design for a Cook Stove.*—Patent dated March 5, 1861.

Claim.—The ornamental design and configuration of cook stove plates, such as described.

No. 1,389.—N. S. VEDDER and E. RIPLEY,, of Troy, N. Y., assignors to N. S. VEDDER, of same place.—*Design for a Stove.*—Patent dated March 5, 1861.

Claim.—The ornamental design and configuration of stove plates, such as described.

No. 1,390.—E. C. BREWSTER, Bristol, Conn.—*Design for a Clock Case.*—Patent dated March 19, 1861.

Claim.—The design for a clock case, as illustrated and set forth.

No. 1,391.—JAMES HORTON and JOHN MARTINO, of Philadelphia, Pa., assignors to D. STUART and R. PETERSON, of same place.—*Design for Plates of a Cooking Stove.*—Patent dated March 19, 1861.

Claim.—The combination and arrangement of the ornamental figures and forms represented in and by the drawing, forming together an ornamental design for the front, side and back plates of a cooking stove.

No. 1,392.—ELIAS INGRAHAM, of Bristol, Conn.—*Design for a Clock Case Front.*—Patent dated March 19, 1861.

Claim.—The design and arrangement of the projecting surface A, and the half bead B, for clock case fronts, in the manner as described and represented.

No. 1,393.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, of same place.—*Design for Carpets.*—Patent dated March 19, 1861.

Claim.—The design or pattern for carpets or other fabrics, as set forth.

No. 1,394.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, of same place.—*Design for Carpets.*—Patent dated March 19, 1861.

Claim.—The design or pattern for carpets or other fabrics, as set forth.

No. 1,395.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, of same place.—*Design for Carpets.*—Patent dated March 19, 1861.

Claim.—The design for carpets or other fabrics, as set forth.

No. 1,396.—A. C. BARSTOW, of Providence, R. I.—*Design for Base for Parlor Stoves.*—Patent dated March 26, 1861.

Claim.—The new design for base for parlor stoves, having the general ornamental form and configuration, as described and represented.

No. 1,397.—N. S. VEDDER, of Troy, N. Y., assignor to INGRAHAM and PHILLIPS, of same place.—*Ornamental Design for an Elevated Oven Cooking Stove.*—Patent dated April 2, 1861.

Claim.—The ornamental design for an elevated oven cooking stove, as described and represented.

No. 1,398.—CHARLES PROBST, of Hudson City, N. Y.—*Design for Window Glass.*—Patent dated April 9, 1861.

Claim.—The peculiar arrangement and configuration of leaves and stems, as described and represented in the drawing, the same forming a new and ornamental design for window glass.

No. 1,399.—WALTER W. STANARD, of Buffalo, N. Y., assignor to JEWETT & ROOT, of same place.—*Design for Coal Stoves.*—Patent dated April 9, 1861.

Claim.—The ornamental design for a coal stove, as described and represented.

No. 1,400.—WALTER W. STANARD, of Buffalo, N. Y., assignor to JEWETT & ROOT, of same place.—*Design for Parlor Stoves.*—Patent dated April 9, 1861.

Claim.—The ornamental design for a parlor stove, as described and represented.

No. 1,401.—WALTER W. STANARD, of Buffalo, N. Y., assignor to JEWETT & ROOT, of same place.—*Design for an Elevated Oven for Cook Stoves.*—Patent dated April 9, 1861.

Claim.—The ornamental design for elevated oven for cook stove, as described and represented.

No. 1,402.—S. E. CHUBBUCK, of Roxbury, Mass., assignor to Himself, I. Y. and S. E. CHUBBICK.—*Design for a Steam Radiator.*—Patent dated April 30, 1861.

Claim.—Arranging the corrugation on plate A, so as to produce the configuration, as described and represented.

No. 1,403.—J. B. SARGENT, of New Britain, Conn.—*Design for a Twine Box.*—Patent dated April 30, 1861.

Claim.—The design of the beehive twine box A, with its border B, as shown and described.

No. 1,404.—SAMUEL W. GIBBS, of Albany, N. Y., assignor to JOHN F. RATHBONE, of same place.—*Design for a Stove.*—Patent dated May 7, 1861.

Claim.—The combination and arrangement of figures and forms represented in the said drawings, forming together the ornamental design for the plates of a parlor or hall stove.

No. 1,405.—SAMUEL W. GIBBS, of Albany, N. Y., assignor to JOHN F. RATHBONE, of same place.—*Design for a Parlor Stove.*—Patent dated May 7, 1861.

Claim.—The combination and arrangement of figures and forms represented in the said drawings, forming together the ornamental design for the plates of a parlor stove.

No. 1,406.—SAMUEL W. GIBBS, of Albany, N. Y., assignor to JOHN F. RATHBONE, of same place.—*Design for a Cooking Stove.*—Patent dated May 7, 1861.

Claim.—The combination and arrangement of figures and forms represented in the said drawings, forming together the ornamental design for the plates of a cooking stove.

No. 1,407.—CALEB W. PALMER, of Troy, N. Y.—*Design for Cooking Stoves.*—Patent dated May 7, 1861.

Claim.—The configuration of and arrangement of ornaments and mouldings upon the end and side plates of the elevated ovens of cooking stoves.

No. 1,408.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,409.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,410.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,411.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,412.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,413.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,414.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,415.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,416.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,417.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,418.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet.*—Patent dated May 7, 1861.

Claim.—The configuration of the design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,419.—HIRAM YOUNG, of New York, N. Y.—*Design for a Teapot.*—Patent dated May 7, 1861.

Claim.—The general configuration of the concave lid A having a flat bottom *a*, an inclined slightly curved or convex side *b*, and a bead *f* on its lip or flange *c*, in connexion with the bead *i* on flange *h*, all being combined and arranged to form a new and original design for a teapot.

No. 1,420.—GARRETTSON SMITH and HENRY BROWN, of Philadelphia, Pa., assignors to LEIBRANDT & MCDOWELL, of the same place.—*Design for a Cooking Stove.*—Patent dated May 14, 1861.

Claim.—The described ornamental figure in the middle of each of the larger doors A, those in the middle of each of the two smaller doors C, and those in each of the two front doors D, and also the edge mouldings around the said doors A C D, the said mouldings being of the form or configuration shown in figures 1 and 5 respectively, also the described ornamental figure in the middle of the back plate B′, and also the edge mouldings around the top plate E and the bottom plate F, the said mouldings being respectively of the form or configuration shown in figures 1, 3, and 4, the said ornamentations constituting a design for the plates of a cooking stove.

No. 1,421.—SAMUEL R. HAWLEY, of New York, N. Y.—*Design for Hats.*—Patent dated May 28, 1861.

Claim.—The general configuration of the stars *a b c* respectively on the crown A and brim B, as shown, to form a new and original design for a hat.

No. 1,422.—ISAAC D. BREWER, of Cambridge, Mass.—*Design for a Label or Trade Mark.*—Patent dated May 28, 1861.

Claim.—The described design for a label or trade mark.

No. 1,423.—M. C. BURLEIGH, of Somersworth, N. H.—*Design for Stoves.*—Patent dated May 28, 1861.

Claim.—The general configuration of the parts herein shown and described to form a new and original design for the doors or panels of stoves.

No. 1,424.—C. W. COOKE, of Waterloo, N. Y.—*Design for Balmoral Skirts.*—Patent dated May 28, 1861.

Claim.—The stripes *a*, of gray or other pale color alternating with stripes *b*, of increasing width, and of blue or other brilliant color, and provided with borders *c*, and centre lines *d*, as shown and described.

No. 1,425.—MILES GREENWOOD, of Cincinnati, O.—*Design for Pumps.*—Patent dated May 28, 1861.

Claim.—The design described, consisting of an eagle and shield enclosed in an arched panel in demi-relief, the whole being substantially as represented.

No. 1,426.—ALBERT F. JOHNSON, of Boston, Mass.—*Design for a Trade Mark.*—Patent dated May 28, 1861.

Claim.—The combination and arrangement of words and ornamented devices for a trade mark to be applied to sewing machines, the same being as described, and as represented in the drawing.

No. 1,427.—SAMUEL W. GIBBS, of Albany, N. Y., assignor to JOHN F. RATHBONE, of same place.—*Design for a Parlor Stove.*

Claim.—The combination and arrangement of figures and forms represented in the drawings or delineations, forming together the ornamental designs for the plates of a parlor stove.

No. 1,428.—EDWARD MAYNARD, of Brooklyn, N. Y., assignor to GIBBONS L. KELTY, of New York, N. Y.—*Design for Curtain Loops.*—Patent dated May 28, 1861.

Claim.—The new and original design for ornamenting curtain loops set forth, the same consisting of a medallion surrounded by the cord of the loop, as shown.

No. 1,429.—JAMES J. MORRISETT, of New York, N. Y., assignor to JACOB L. DODGE, of the same place.—*Design for Hats.*—Patent dated May 28, 1861.

Claim.—The configuration of the brim of the hat, as illustrated by the several figures of the drawing, and herein described.

No. 1,430.—GARRETTSON SMITH and HENRY BROWN, of Philadelphia, Pa., assignors to Cox, Whitman & Cox, of the same place.—*Design for a Stove.*—Patent dated May 28, 1861.

Claim.—The ornamental figures and forms represented in and by the drawing, the whole forming an ornamental design for the front, side, and back plates of a cooking stove.

No. 1,431.—N. S. VEDDER, of Troy, N. Y., assignor to VINCENT, TIBBALS, SHIRK & Co., of Erie, Pa.—*Design for Cooking Stoves.*—Patent dated May 28, 1861.

Claim.—The specified combination and arrangement of forms and mouldings constituting the whole design of a cooking stove, as represented.

No. 1,432.—LEVI L. TOWER, of Boston, Mass., assignor to CUTTER, TOWER & Co., of the same place.—*Design for a Trade Mark.*—Patent dated June 11, 1861.

Claim.—The said design as a trade mark, to be applied to lead pencils, &c., the same being as described and represented.

No. 1,433.—CHARLES S. CHAFFEE, of East Cambridge, Mass., assignor to the BAY STATE GLASS COMPANY, of the same place.—*Design for Tumblers, Goblets, &c.*—Patent dated June 25, 1861.

Claim.—The said design, as described and represented.

No. 1,434.—H. W. HAYDEN, of Waterbury, Conn.—*Design for a Mat for Daguerreotype, Ambrotype, and Photograph Cases.*—Patent dated June 25, 1861.

Claim.—The general configuration of the parts shown and described to form a new and original design for a mat for daguerreotype and similar cases.

No. 1,435.—JAMES HUTCHINSON, of Lansingburg, N. Y., assignor to JONA. E. WHIPPLE of the same place.—*Design for Oil Cloths.*—Patent dated June 25, 1861.

Claim.—The general configuration of the parts to form a new and original design for oil cloths.

No. 1,436.—JAMES MCDUFF, of Morrisania, N. Y., assignor to N. MCGRAW and M. A. TAYLOR, of New York, N. Y.—*Design for Coffins.*—Patent dated June 25, 1861.

Claim.—The double ogee or serpentine raised top A and ends B C, corresponding in configuration with the top, as described and represented.

No. 1,437.—GIBBONS L. KELTY, of New York, N. Y.—*Design for Painted Window Shade Material.*—Patent dated July 9, 1861.

Claim.—The new and original design for the manufacture of window shades or curtains set forth, the same consisting of an ornamental lattice painted upon the entire surface of the fabric, as shown.

No. 1,438.—JOSIAH C. FAY, of Troy, N. Y.—*Design for Cooking Stoves.*—Patent dated July 16, 1861.
Claim.—The ornamental design of the stove, as described and shown.

No. 1,439.—JOHN GORHAM, GORHAM THURBER, and LEWIS DEXTER, jr., of Providence, R. I.—*Design for the Handles of Table Spoons and Forks.*—Patent dated July 16, 1861.
Claim.—The design specified for the handles of spoons and forks, as set forth and represented.

No. 1,440.—JOHN GORHAM, GORHAM THURBER, and LEWIS DEXTER, jr., of Providence, R. I.—*Design for Spoon and Fork Handles.*—Patent dated July 16, 1861.
Claim.—The design specified for the handles of spoons and forks, as set forth and represented.

No. 1,441.—JAMES HORTON and JOHN MARTINO, of Philadelphia, Pa., assignors to DAVID STEWART and RICHARD PETERSON, of the same place.—*Design for the Plates of a Parlor Stove.*—Patent dated July 16, 1861.
Claim.—The combination of the ornamental figures and forms represented in and by the drawing, forming together an ornamental design for the plates of a parlor stove.

No. 1,442.—JAMES HORTON and JOHN MARTINO, of Philadelphia, Pa., assignors to DAVID STEWART and RICHARD PETERSON, of the same place.—*Design for Plates of a Cooking Stove.*—Patent dated July 16, 1861.
Claim.—The combination of the ornamented figures, in forms, represented in and by the drawings, forming together an ornamental design for the plates of a cooking stove.

No. 1,443.—ELEMIR J. NEY, of Lowell, Mass , assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,444.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,445.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,446.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,447.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,448.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,449.—ELEMIR J. NEY, of Lowell, Mass.. assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,450.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,451.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,452.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated July 16, 1861.
Claim.—The design or pattern for carpets or other fabrics set forth.

No. 1,453.—GARRETTSON SMITH and HENRY BROWN, of Philadelphia, Pa., assignors to NORTH, CHASE, and NORTH, of the same place.—*Design for Iron Doors.*—Patent dated July 16, 1861.
Claim.—The design and configuration of the mouldings *a a a*, forming an ornamental design for iron doors, and the desire to limit our claim to said design.

No. 1,454.—NANCY D. TERRY, of Providence, R. I.—*Design for a Shaker Bonnet.*—Patent dated July 16, 1861.

Claim.—My peculiar design, shape, or configuration for a shaker bonnet, as described.

No. 1,455.—ANDREW DOUGHERTY, of Brooklyn, N. Y.—*Design for Playing Cards.*—Patent dated July 23, 1861.

Claim.—A colored flag design for playing cards, consisting of colored faces with colored flag backs, as described and represented.

No. 1,456.—DANIEL M. SCYPES and SAMUEL SMITH, of Springville, Pa., assignors to SMITH, FRANCIS, and WELLS, of the same place.—*Design for a Cooking Stove.*—Patent dated July 23, 1861.

Claim.—The ornamental figures and forms represented in and by the drawings, and forming, together, an ornamental design for the plates of a cooking stove.

No. 1,457.—DANIEL M. SCYPES and SAMUEL SMITH, of Springville, Pa., assignors to SMITH, FRANCIS, and WELLS, of the same place.—*Design for the Plates of a Summer Range.*—Patent dated July 23, 1861.

Claim.—The ornamental figures and forms represented in and by the drawings, and forming, together, an ornamental design for a summer range.

No. 1,458.—SAMUEL W. GIBBS, of Albany, N. Y., assignor to ABBOTT and NOBLE, of Philadelphia, Pa.—*Design for Plates of a Parlor Stove.*—Patent dated August 13, 1861.

Claim.—The ornamental figures and forms represented in and by the drawings, and forming, together, an ornamental design for the cap and base of a parlor stove.

No. 1,459.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,460.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpet or other fabrics as set forth.

No. 1,461.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpet or other fabrics as set forth.

No. 1,462.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,463.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,464.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,465.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY.—*Design for a Carpet Pattern.*—Patent dated August 13, 1861.

Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,466.—WILLIAM A. GREENE, of Albany, N. Y.—*Design for a Laundry Stove.*—Patent dated August 13, 1861.

Claim.—The design or form, as described and shown in the drawings, the same constituting the external form or design for a laundry or heating stove.

No. 1,467.—DANIEL RICKERBY, of Boston, Mass.—*Design for Slate Roofing.*—Patent dated August 13, 1861.

Claim.—The design for slating, produced by the use of the slates A and B, as specified.

No. 1,468.—CHARLES A. SHAW, of Biddeford, Me.—*Design for a Work Holder.*—Patent dated August 13, 1861.

Claim.—The design for a work holder as described and illustrated in the drawings.

No. 1,469.—CHARLES A. SHAW and JAMES R. CLARK, of Biddeford, Me.—*Design for a Sewing Machine.*—Patent dated August 13, 1861.

Claim.—The ornamental design for the standard *a a a a** as shown in the drawings and described.

No. 1,470.—BARNARD SMITH, of Cincinnati, O.—*Design for a Burial Case.*—Patent dated August 27, 1861.
Claim.—The design of a metallic burial case, as described and represented.

No. 1,471.—JOHN GORHAM, GORHAM THURBER, and LEWIS DEXTER, jr., of Providence, R. I.—*Design for Spoons.*—Patent dated September 3, 1861.
Claim.—The design for spoons, substantially as described.

No. 1,472.—ELIAS INGRAHAM, of Bristol, Conn.—*Design for a Clock Case Front.*—Patent dated September 3, 1861.
Claim.—The design for a clock case, as illustrated and set forth.

No. 1,473.—GILBERT KNAPP, of Honesdale, Pa.—*Design for a Cook Stove.*—Patent dated September 3, 1861.
Claim.—The general configuration of the parts shown and described, to form a new and original design for a cook stove.

No. 1, 474.—JACOB MERSEREAU, of Port Chester, N. Y., assignor to W. P. A. and J. ABENDROTH, of New York, N. Y.—*Design for a Cooking Stove.*—Patent dated September 17, 1861.
Claim.—The general configuration of parts shown and described, to form a new and original design for a cooking stove.

No. 1,475.—EBERHARD FABER, of New York, N. Y.—*Design for a Trade Mark on Lead Pencils.*—Patent dated October 8, 1861.
Claim.—The ornamental design, or trade mark, composed of an American or national flag, combined with the word "Union," as represented, to be fixed on pencils, in the manner and for the purposes described.

No. 1,476.—S. H. SAILOR, of Philadelphia, Pa., assignor to SMITH, FRANCIS and WELLS, of Springville, Pa.—*Design for an Egg Cylinder Stove.*—Patent dated October 8, 1861.
Claim.—The ornamental figures and forms represented in and by the drawing, the whole forming an ornamental design for an egg cylinder stove.

No. 1,477.—S. H. SAILOR, of Philadelphia, Pa., assignor to SMITH, FRANCIS and WELLS, of Springville, Pa.—*Design for a Gas Burning Cylinder Stove.*—Patent dated October 8, 1861.
Claim.—The ornamental figures and forms represented in and by the drawing, the whole forming an ornamental design for a cylinder stove.

No. 1,478.—WILLIAM P. UHLINGER, of Philadelphia, Pa.—*Design for a School Desk.*—Patent dated October 8, 1861.
Claim.—The ornamental configuration of the cast iron uprights B, constituting, in combination with a table C, back D, and seat A, a new and original design for a school desk, as set forth and represented in the drawing.

No. 1,479.—FRANCIS GIRAD, of New York, N. Y.—*Design for a Picture Frame.*—Patent dated October 22, 1861.
Claim.—A design for picture frames, differing from the oval, in which the middle of the four sides and the middle of the four round corners are equal in width, but larger than the eight intermediate pieces.

No. 1,480.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, of the same place.—*Design for a Carpet Pattern.*—Patent dated October 22, 1861.
Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,481.—ELEMIR J. NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, of the same place.—*Design for a Carpet Pattern.*—Patent dated October 22, 1861.
Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,482.—ELEMIR J, NEY, of Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, of the same place.—*Design for a Carpet Pattern.*—Patent dated October 22, 1861.
Claim.—The design or pattern for carpets or other fabrics as set forth.

No. 1,483.—HENRY TERRY, of Plymouth, Conn.—*Design for a Clock Case Front.*—Patent dated October 22, 1861.
Claim.—The design for a clock case front, substantially as described and illustrated.

No. 1,484.—HENRY K. HOTCHKISS, of Bristol, Conn.—*Design for a Clock Case.*—Patent dated October 29, 1861.
Claim.—The design or pattern for a clock case, as illustrated and described.

No. 1,485.—CALEB W. PALMER, of Troy, N. Y.—*Design for a Cooking Stove.*—Patent dated October 29, 1861.

Claim.—Cooking stove plates, ornamented as described.

No. 1,486.—JAMES J. MORRISETT, of New York, N. Y., assignor to JACOB L. DODGE, of the same place.—*Design for Hats.*—Patent dated October 22, 1861.

Claim.—The configuration of the brim of the hat, as illustrated by the several figures of the drawing and described.

No. 1,487.—GARDNER CHILSON, of Boston, Mass.—*Design for a Parlor Stove.*—Patent dated November 5, 1861.

Claim.—The design of the base A, the door frames F and G, the cap plate E, the legs H H H, the register K, and the urn D, the same being formed and ornamented in manner as shown in the drawings.

No. 1,488.—J. A. ESHLEMAN, of Philadelphia, Pa.—*Design for a Cravat.*—Patent dated November 12, 1861.

Claim.—A cravat composed of a fabric of two different colors, and formed into the ornamental bow represented in and by the drawing.

No. 1,489.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,490.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,491.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,492.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,493.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,494.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,495.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,496.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,497.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,498.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,499.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,500.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,501.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,502.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into two-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,503.—HENRY G. THOMPSON, of New York, N. Y., assignor to the HARTFORD CARPET COMPANY, of Hartford, Conn.—*Design for a Carpet Pattern.*—Patent dated November 19, 1861.

Claim.—The design, when made, by being inwrought into three-ply ingrain or other carpeting, in the form similar to the drawings accompanying the specification.

No. 1,504.—ELIAS INGRAHAM, of Bristol, Conn.—*Design for a Clock Case.*—Patent dated December 3, 1863.

Claim.—The design for a clock case, as illustrated and described.

No. 1,505.—ALBERT E. POWERS, of Lansingburgh, Pa., administrator of ANTOINE GLOMENSKI, deceased.—*Design for Floor Oil Cloths.*—Patent dated December 3, 1861.

Claim.—The design or pattern described in the specification and the drawings accompanying the same.

No. 1,506.—JOHN HOLT, of Gardner, Maine.—*Design for a Rolling Pin.*—Patent dated December 10, 1861.

Claim.—The general configuration of parts shown and described, to form a new and original design for a rolling pin.

No. 1,507.—THOMAS LYONS, of New Britain, Conn., assignor to RUSSELL & ERWIN, manufacturing company, of New York, N. Y.—*Design for a Horse Spur.*—Patent dated December 24, 1861.

Claim.—The general configuration of the parts described, to form a new and ornamental design for a spur.

ADDITIONAL IMPROVEMENTS.

No. 312.—JASPER JOHNSON, of Genesee, N. Y.—*Improved Gate.*—Patent dated January 29, 1861.

Claim.—The dropping latch combined with the operating lever as set forth.

No. 313.—F. CHAMBERLIN, of Berlin, Wis.—*Improvement in Seeding Machines.*—Patented April 10, 1860; improvement of February 26, 1861.

Claim.—The employment of the adjustable regulating rim *a a*, as constructed in combination with the hopper A, box D, and cover F, arranged in the manner and for the purpose set forth.

No. 314.—JOHN HARTMAN, jr., of Philadelphia, Pa.—*Improvement in Couch Seats for Railroad Cars.*—Patented September 7, 1858; improvement of February 26, 1861.

Claim.—The groove or slot G, and the bolt or pin H, the same being constructed and applied to operate in combination, substantially in the manner described and for the purpose specified.

Also, in combination with the subject of the above claim and the diagonal brace E, and ring I, the application of the knee joint brace F, the same being constructed and arranged to operate substantially as described and for the purposes specified.

No. 315.—A. H. ROWAND, of Allegheny, Pa.—*Improvement in Coupling for Railroad Cars.*—Patented January 1, 1861; improvement of February 26, 1861.

Claim.—The application and use of the compound metallic springs, supported by the elastic spring pads or cushions *c c*, and its socket or bed *m m*, operating by lateral resistance or pressure; also elastic spring pads or cushions *o o*, near the ends of the main metallic spring, so as to increase the lateral resistance of said spring when the car is drawn forward, the above parts being arranged as shown, and operating in the manner and for the purpose set forth.

No. 316.—G. J. WILLSON and D. H. FOX, of Reading, Pa.—*Improvement in Gas Meters.*—Improvement of February 26, 1861.

Claim.—First, the application and combination of the lower valve *c*, and its seat D, with our open discharge pipe Q, and open filling tube R.

Second, the application of a back outlet connexion with one or more openings in back of meter at any convenient place, to prevent a direct connexion to or with the measuring drum, or the applying of any instrument to pierce or injure the measuring drum of a wet gas meter, as set forth.

No. 317.—DOUGLAS BLY, of Rochester, N. Y.—*Improvement in Attaching Thills to Vehicles.*—Letters patent No. 23,549, dated April 12, 1859; reissue with additional improvement No. 253, dated October 11, 1859; improvement of March 12, 1861.

Claim.—The tightening block D, in combination with the movable collar G, and nut H, substantially as and for the purpose herein specified.

No. 318.—SAMUEL B. H. VANCE, of New York city.—*Improved Electrical Apparatus for Lighting Gas.*—Letters patent No. 335, dated February 5, 1861; improvement of March 12, 1861.

Claim.—The employment or use of the stationary electric machine, as described, in place of the lamp, candle, taper or other match generally used for lighting gas.

EXTENSIONS.

EUNICE B. HUSSEY, administratrix of OBED HUSSEY, deceased, late of Baltimore, Md.—*Improvement in Reaping Machines.*—Patent dated August 7, 1847; reissue 917; dated February 28, 1860; extended February 27, 1861.

Claim.—The combination of the finger beam, (without a platform,) the short, open slot fingers, having small projections below the cutter, the scolloped cutter, and the guides for the cutter, these parts being constructed and combined substantially as described; the cutter vibrating in a straight line, each scollop having an edge sliding in close proximity to an angular corner of the finger, and forming therewith a nipping angle, substantially as described.

HENRY JENKINS, of Brooklyn, N. Y., formerly of Pottsville, Pa.—*Improvement in Machinery for Weaving Wire Grating.*—Patented March 6, 1847; extended March 5, 1861.

Claim.—Manufacturing screens or other articles from metallic wires or bars that are bent or crinkled at the point of intersection previously to being laid or woven up, whereby I am enabled to form meshes of any desired size or shape by such intersecting bars or wires, so that they shall be rigid and durable, as set forth; and this is claimed irrespective of the mechanism for bending or crinkling said wires, or interweaving them to form the requisite meshes.

EUNICE B. HUSSEY, administratrix of OBED HUSSEY, deceased, late of Baltimore Md.—*Improvement in Reaping Machines.*—Patent dated August 7, 1847; reissue 449; dated April 14, 1857; extended March 1, 1861.

Claim.—The combination of a vibrating scolloped cutter, the indentations of whose edge act as a series of moving shear blades, with slotted guard fingers, the sides of which act as a

corresponding series of fixed shear blades; the parts of such fingers forming the slot being connected at the front ends only, leaving the rear of the slot open and free for the escape of material that would otherwise clog the cutter, substantially as described.

EUNICE B. HUSSEY, administratrix of OBED HUSSEY, deceased, late of Baltimore, Md.—*Improvement in Reaping Machines.*—Patent dated August 7, 1847; reissue 451; dated April 14, 1857; extended March 1, 1861.

Claim.—The combination of a slot formed between the long and short parts of the guard fingers with an opening in the rear of the short part, substantially as described.

EUNICE B. HUSSEY, administratrix of OBED HUSSEY, deceased, late of Baltimore, Md.—*Improvement in Reaping Machines.*—Patent dated August 7, 1847; reissue 742; dated June 21, 1859; extended March 1, 1861.

Claim.—The combination of the side and cross bearings of the guards, with flush edges at or near the forks of the blades, substantially as described.

E. B. BIGELOW, of Boston, Mass.—*Improvement in Brussel Looms.*—Patented March 20, 1847; reissued September 11, 1849; extended March 6, 1861.

Claim.—First, giving to the two parts of the mechanism—that which weaves the cloth or forms the body of the fabric, and the one which operates the figuring wires—a separate and distinct organization, substantially as described, when these are connected and confined by an intermediate mechanism which shifts the motive or driving power from one to the other, substantially as described; and, in combination with this, the employment of two brakes to arrest the momentum of the moving parts, to prevent any conflict in the operations of the two parts of the mechanism.

Second, in combination with a loom for weaving such looped fabrics as designated, the employment of a box, trough, or the equivalent thereof, for receiving and holding the figuring wires preparatory to their being introduced under the figuring warps, substantially as described.

Third, the fingers, or their equivalents, which receive the figuring wires from under the pile or figuring loops, in combination with the trough box, or the equivalent thereof, into which they are deposited preparatory to the introduction of them under the figuring warps, substantially as described.

Fourth, in combination with the mechanism which withdraws the figuring wires from under the pile or figuring loops, the fingers, or their equivalent, for transferring the said wires to the trough, or the equivalent thereof, from which or by which they are transferred to the open shed of the figuring warps, substantially as described.

Fifth, the method, substantially as described, of introducing and dropping the figuring wires in the open shed of the figuring warps, as described.

Sixth, the method, substantially as described, of supporting the figuring wires in the opening shed of the figuring warps when they are being introduced, as described.

CHARLES WILSON, of Springfield, Mass.—*Improvement in Cutting Stone.*—Patented March 13, 1847; reissued March 4, 1851; extended March 12, 1861.

Claim.—The mode of cutting, turning, or splitting stone, or other like material, by means of a revolving cutter, operating in the manner set forth.

WILLIAM JOSLIN, of Cleveland, Ohio.—*Improvement in Machinery for Manufacturing Cordage.*—Patented January 19, 1847; reissued September 25, 1860; extended January 19, 1861.

Claim.—First, the construction of the revolving condensing tube K^2 with the stationary laying block J, the former being constructed and operated in the manner and for the purpose set forth.

Second, the combination of the adjustable frustrum of a cone with the revolving shaft H and condensing tube K^2 for graduating the tension of the strands during the operation of laying them, as described.

JAMES RABBETH, of East Hartford, Conn.—*Improvement in Diaper Pins.*—Patented January 21, 1847; extended January 19, 1861.

Claim.—The combination of the tubes, caps, elastic bands and pins, as described, so as to form a pin in such a manner as that the pin will be confined or held in its place, and the point thereof prevented from piercing or otherwise injuring the person wearing or using the same.

RICHARD F. LOPER, of Philadelphia, Pa.—*Improvement in Ship-building.*—Patented November 13, 1847; reissued May 7, 1861; extended November 6, 1861.

Claim.—Constructing ships and other vessels with hollow iron ribs, rolled as described, and bound together by means of a wooden planking and ceiling, substantially as described, whereby a great saving in weight and cost of metal is effected, said hollow ribs affording a means of introducing oil, which by the motion of the vessel is to circulate and penetrate to the bottom fastenings, preventing the rotting of the planks and the oxydation of the metal, as described.

H. R. DUNHAM, of New York, N. Y.—*Improvement in Connecting Side Pipes with the Steam Chests.*—Patented March 20, 1847; extended March 19, 1861.

Claim.—The application of a plate of flexible metal in a steam pipe between two flanges of different diameters, the yielding of which plate shall give sufficient room for the expansion of the pipe, thereby avoiding the necessity of using stuffing boxes or the ordinary copper hemispherical ring joints for side pipes of steam engines.

T. B. BLEECKER, of New York, N. Y.—*Improvement in Folding Bedsteads.*—Patented April 17, 1847; reissued July 24, 1860; extended April 10, 1861.

Claim.—First, the employment of a frame hinged in the centre and connected to the two ends of a bedstead, for the purpose of folding the whole bedstead together endwise, in the manner described.

Second, in combination with said folding frame, the hook-shaped ends to the side rails, taking bolts attached to the posts and forming hinges at these points for folding the hinged frame or allowing said frame to be disconnected from the posts, as specified.

Third, in combination with said frame hinged to the centre, the pendent legs fig. 9. and the braces *k*, for the purposes and as specified.

THOMAS BROWN, of London, England.—*Improved Arrangement of Means for Working and Stopping Chain Cables.*—Patented July 25, 1854; ante-dated April 20, 1847; reissued March 25, 1856; again reissued February 15, 1859; extended April 12, 1861.

Claim.—The flaring and radially flanched annular recess in the capstan of working a cable of any given size, or cables of several different sizes, the same being constructed and operating in the manner and for the purposes substantially as set forth.

Also, in combination with a capstan, a windlass which is capable of working a chain cable when only a partial turn is taken, a set of removable rollers, so arranged in relation to the capstan, the deck pipes and hawse holes, that either a port or starboard chain cable can be continuously hove in by means of said capstan and rollers, and can be directly run out of its locker without any previous overhauling, substantially as set forth.

Also, the described arrangement of bow stopper and after stoppers, whereby more cable can gradually and controllably be given to a vessel while riding heavily at anchor, substantially as set forth.

Also, the clearing guide, in combination with the annular recess of a capstan or windlass, which is capable of working a chain cable when only a partial turn is taken, for the purpose and in the manner substantially as set forth.

ANSON ATWOOD, of Troy, N. Y.—*Improvement in Cast Iron Wheels for Railroad Carriages.*—Patented May 15, 1847; reissued June 9, 1857; again reissued September 22, 1857; extended April 27, 1861.

Claim.—The connecting of the rim of the wheel with the hub in cast-iron car wheels by means of two curved plates, starting from near the ends of the hub and joining at a part of the distance between it and the rim, thus forming a hollow ring or arch around the hub, and joining said ring with the rim by a single plate, or its equivalent, for the uses and purposes set forth.

ANSON ATWOOD, of Troy, N. Y.—*Improvement in Cast Iron Wheels for Railroad Carriages.*—Patented May 15, 1847; reissued June 9, 1857; again reissued September 22, 1857; extended April 27, 1861.

Claim.—Connecting the rim of a wheel cast in one piece with a solid hub by means of a single waved plate, in combination with the dished flanch or flanches of the hub, forming a ring concentric with the rim of the wheel, substantially as described, whereby the several parts can yield to the unequal contraction in all directions without serious strain of the metal. extended April 27, 1861.

ANSON ATWOOD, of Troy, N. Y.—*Improvement in Cast Iron Wheels for Railroad Carriages.*—Patented May 15, 1847; reissued June 9, 1857; again reissued September 22, 1857; extended April 27, 1861.

Claim.—A cast-iron disc, corrugated in the manner substantially as and for the purposes described, when used in connexion with the chilled rim of a cast-iron wheel.

P. W. GATES, of Chicago, Ill.—*Improvement in Dies for Cutting Screws.*—Patented May 8, 1847; extended May 6, 1861.

Claim.—The forming of such dies of one solid block, in such a manner as that they shall cut a perfect screw by the once passing of it along the piece to be cut, this being effected in the manner set forth, that is to say, by the forming of acute cutting edges on the threads within the die, which threads are to be regularly reduced in height from the upper to the lower face thereof, at which part the last terminating thread is obliterated, and by the filing away of a large portion of the threads, as shown at B B, and by the curves *e m* and *f m*; the cutting edges being also furnished with throats for the escape of the cuttings, as made known and represented, and the whole apparatus being arranged, combined, and operating substantially in the manner and for the purpose set forth.

R. M. HOE, of New York, N. Y.—*Improvement in Rotary Printing Presses.*—Patent dated July 24, 1847; extended July 24, 1861.

Claim.—First, putting the form or forms of types on a movable or permanent segment of a cylinder which forms the bed and chase, substantially as described, and also when this is combined with the cylindrical distributing table which occupies another segment of the same cylinder, substantially as described.

Second, giving to the inking rollers a movement toward and from the centre of the cylinder that carries the form of types, substantially as described, when this is combined with the form of types, and the distributing table made on one and the same cylinder and of different radius, as described, whereby the inking rollers are adapted to the different diameter of the form of types and distributing table, as described.

Third, giving to the ductor or fountain roller of the inking apparatus a slow, continuous, rotary motion, in combination with the ratchet connexion between the roller and the mechanism from which it receives its continuous rotary motion, substantially as described, whereby the ink is more regularly supplied, and by which, also, this supply may be altered when desired, as described.

Lastly, the method of securing the form of types on a cylindrical surface with column rules, made thicker toward their outer than their inner edge, by connecting these with grooves in the bed, by which they are permitted to approach and recede from each other, and at the same time kept down to the same radius, substantially as described, whereby prismatic types can be secured and held on a cylindrical surface as effectually as on a flat surface, as described.

T. J. RODMAN, of Pittsburg, Pa.—*Improvement in Casting Ordnance, &c.*—Patented August 14, 1847; extended August 6, 1861.

Claim.—The cooling from the interior of guns or other heavy hollow castings intended to resist a central force, by circulating within the core a cooling fluid or gas, in combination with the application of artificial heat at the exterior of the flask to prevent cooling from without.

WM. J. PULVER, of Troy, N. Y.—*Improvement in Fire Grates.*—Patented August 7, 1847; extended August 6, 1861.

Claim.—The manner of dividing the grate into compartments by means of serrated or interlacing bars or teeth, having an oscillatory or semi-revolving motion with the transverse bars of which they form a part, or to which they are united, and this in combination with the rock shaft through which the said motion is propagated from the lever.

S. G. CORNELL, of Greenwich, Conn.—*Improvement in Lead Pipe Machinery.*—Patented August 21, 1847; extended August 20, 1861.

Claim.—Placing the die for forming the exterior surface of the pipe in the piston, or the hollow mandrel, as the case may be, substantially as described, instead of placing it in the head of the lead cylinder, as has been heretofore done, so that, as the piston is forced into the cylinder, or the cylinder forced over the piston, the pipe will be formed at the point of pressure without moving the mass of lead relatively to the cylinder; and in combination therewith the color for forming the interior surface of the pipe, the die and core being adjusted and held in their proper relative positions by any of the known methods.

TIMOTHY CLARK, of New Haven, Conn.—*Improvement in Safety Apparatus for Steam Boilers.*—Patented August 21, 1847; extended August 27, 1861.

Claim.—The application of an elastic vessel, substantially as described, instead of the piston, whereby the friction of the piston is avoided, and the operation of the damper is rendered much more uniform, the whole being constructed and operating substantially as described.

J. W. WINSLOW, of Troy, N. Y.—*Improvement in Rolling and Compressing Puddler's Balls.*—Patented December 18, 1847; extended December 11, 1861.

Claim.—The method, substantially as described, of compressing or shingling puddler's balls or loops of iron into blooms, by the combination of the cam-formed compresser and two or more rollers, substantially as described.

Second, the spring or yielding cheeks for setting up the ends of the blooms, in combination with the combined cam-formed compresser and rollers, substantially as described.

And, finally, I claim the feeder and discharging follower, in combination with the combined cam-formed compresser and rollers, in the manner and for the purpose described.

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